



**THE ROLE OF CONSUMERS IN
TRANSFORMATIONS TOWARDS SUSTAINABLE CONSUMPTION**

Qualitative and quantitative insights into consumers' purchasing
decisions regarding fast moving consumer goods

Dissertation

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LIST OF ABBREVIATIONS

CA	Capability approach
FMCG	Fast moving consumer goods
GHG	Greenhouse gas
MLP	Multi-level perspective
SDG	Sustainable development goals
SRB	Self-reported behavior
TM	Transition management
UN	United Nations
WTP	Willingness to pay

OVERVIEW OF PAPERS INCLUDED

In the following, the papers included in the present dissertation are listed in accordance with the guideline for cumulative dissertations at the Faculty of Sustainability as of January 2012 (hereafter known as the “guideline”). The papers meet the formal requirements for a paper-based dissertation with special regard to the qualitative requirements of the articles according to §7 - §9 of the guideline. The papers are ordered as they appear in the framework paper. Annex I provides a detailed overview of each single paper and the author’s contributions according to §12 and §16 of the guideline.

Annex II includes the manuscripts / published versions of papers 1 – 7.

Publications (double-blind peer reviewed)

1. **Moser, A. K.** (2015). Thinking green, buying green? Drivers of pro-environmental purchasing behavior. *Journal of Consumer Marketing*, 32(3), 167–175. doi:10.1108/JCM-10-2014-1179.
2. **Moser, A. K.** (2016). Consumers’ Purchasing Decisions Regarding Environmentally Friendly Products: An Empirical Analysis of German Consumers. *Journal of Retailing and Consumer Services*, 31, 389–397. doi:10.1016/j.jretconser.2016.05.006.
3. **Moser, A. K.** (2016). Buying organic – decision-making heuristics and empirical evidence from Germany. *Journal of Consumer Marketing*, 33(7), 552–561. doi:10.1108/JCM-04-2016-1790.
4. **Eberhart (née Moser), A. K., & Naderer, G.** (forthcoming). Quantitative and qualitative insights into consumers’ sustainable purchasing behaviour: A segmentation approach based on motives and heuristic cues. *Journal of Marketing Management*. doi 10.1080/0267257X.2017.1371204.

Contributions to Conferences (double-blind peer reviewed)

5. **Moser, A. K.** (2015). The Attitude-Behavior Hypothesis and Green Purchasing Behavior: Empirical Evidence from German Milk Consumers. In T. Brown & V. Swaminathan (Eds.), *AMA Winter Marketing Educators' Conference: Vol. 26. Marketing in a Global, Digital and Connected World* (pp. C27-C28). Chicago, IL: AMA

6. **Moser, A. K., & Naderer, G.** (2016). Deciphering Sustainable Consumption: Understanding, Motives and Heuristic Cues in the Context of Personal Care Products: Poster presentation. In K. Knoeferle (Ed.), *EMAC 2016. Marketing in the age of data* (p. 162).

7. **Moser, A. K., & Naderer, G.** (2016). Deciphering Sustainable Consumption: Understanding, Motives and Heuristic Cues in the Context of Personal Care Products. In B. Jaworski & N. Morgan (Eds.), *AMA Summer Educators' Conference Proceedings: Vol. 27. Regaining Relevance. Doing Research that Shapes the Practice of Marketing* (pp. H-12). Chicago, IL: AMA.

The role of consumers in transformations towards sustainable consumption – Qualitative and quantitative insights into consumers’ purchasing decisions regarding fast moving consumer goods

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Abstract

The dissertation project focuses on empirically investigating consumers’ attitudes, motivations and purchasing decisions regarding sustainable products. The focus on this micro perspective, however, does not reflect consumers’ roles within the transformation towards sustainable consumption. Therefore, the present framework paper puts the included papers into a greater context and evaluates the findings on a meta-level by applying an enhanced transition management theory. The analysis underlines that consumers’ limited personal capabilities are an underlying reason for unsustainable practices. Therefore, the active engagement not only of consumers, but also of companies is required if the transformation is to be successful. If companies actively support consumers in making sustainable choices, consumers can engage in sustainable consumption with only low cognitive efforts. On this basis, genuine sustainable choices are enabled. The dissertation provides practical implications by highlighting potential measures which will help to promote sustainable products from niches to mainstream. In sum, the dissertation project enhances academic understanding of consumers’ sustainable purchasing behavior and reveals the potential of integrating such insights into the management of transformations towards sustainable consumption.

Keywords: consumer behavior; green marketing; heuristics; sustainable consumption; sustainability transformation

1 MOTIVATION AND BACKGROUND

Consumers are crucial actors for sustainable development. Household consumption contributes to more than 60 % of global greenhouse gas (GHG) emissions and between 50 % and 80 % of total land, material, and water use. Naturally, wealthier countries generate higher impacts per capita (Ivanova et al., 2016). Consumers are also seen as the cause of unfair conditions for production workers or unfair terms of trade (Schrader & Thøgersen, 2011). Consequently, sustainable consumption is considered an integral part of the development of a sustainable economy and society. The United Nations (UN) includes sustainable consumption and production into its sustainable development goals (SDG) (United Nations, 2015). Furthermore, the 2015 Paris climate agreement recognizes that “sustainable consumption patterns [...] play an important role in addressing climate change” (European Commission, 2016).

Sustainable consumption, however, is a demanding concept, not least because it is an oxymoron. Whereas sustainability implies the conservation of e.g. environmental resources, consumption generally involves their mining and / or destruction. Sustainable consumption also overlaps other concepts such as ethical, green or responsible consumption (Peattie, 2010). Following Peattie (2010), this framework paper uses the term sustainable more broadly as shorthand for “oriented towards sustainable development”, which reflects the United Nations Environment Programme’s conception of sustainable consumption. This conception comprises key issues, such as meeting needs, enhancing quality of life, improving efficiency, minimizing pollution and waste, taking a life cycle perspective and considering intergenerational equity, while continually reducing environmental damage and the risk to human health (United Nations Environment Programme, 2005).

In the 21st century, sustainable consumption is linked to a wide array of choices and a broad access to information. The range of sustainable goods¹ is continuously rising (Thøgersen, Jørgensen, & Sandager, 2012). Likewise, information about sustainable alternatives as well as their availability has improved over the last decade (Burke, Eckert, & Davis, 2014). Polls also indicate that the majority of consumers considers sustainability as an integral part of their purchasing decisions (GfK-Verein, 2015; Otto Group, 2013). However, the market penetration of sustainable consumer products remains only modest. Except for energy-efficient domestic appliances or certified sustainable seafood, many sustainable products only occupy niches (Federal Environment Agency UBA, 2014; United Nations Environment Programme, 2005). Thus, a broader consumer base has to be established in order to manage the evolution

¹ In the following, the terms goods, products and services are used interchangeably.

of sustainable niches. Besides inherent benefits for the environment and society, this prospect also creates opportunities for businesses. Research found that companies with a sustainable orientation achieve higher profitability (Menguc & Ozanne, 2005) and better financial performance (Li, Chow, Choi, & Chan, 2016), greater levels of employee commitment (Maignan & Ferrell, 2001), and increased customer satisfaction (Luo & Bhattacharya, 2006). Sustainable product and distribution programs furthermore positively affect companies' overall product-market performance, while corresponding pricing and promotion practices are directly and positively related to companies' return on assets (Leonidou, Katsikeas, & Morgan, 2013).

In the light of these benefits, the present research seeks to better understand sustainable purchasing behavior of fast moving consumer goods (FMCG) such as food and other non-durables (see also chapter 3 for the operationalization of sustainable products). This field has been identified as a major field of action along with mobility and housing by the German Federal Environment Agency (Federal Environment Agency UBA, 2015). It is of utmost importance to comprehend what consumers are capable of and willing to do in order to understand the way they make decisions in favor (or against) sustainable products. The findings of the corresponding research will serve companies as a basis for identifying the most effective points of intervention. This will help to achieve the SDG regarding consumption and at the same time businesses' bottom lines will profit from this.

The overall focus of this PhD thesis lies on the empirical examination of consumers' attitudes, motivations and behavior with respect to sustainable consumption. In contrast to lifestyle research which examines everyday practices in their entirety, this thesis analyzes selected practices and individual decisions. By a meta-analysis of the included papers through the lens of an enhanced transition management theory (Rauschmayer, Bauler, & Schöpke, 2015), the role of consumers in transformations towards sustainable consumption is explored. Findings reveal promising paths to interact with consumers and, thus, promote sustainable consumption.

This framework paper is structured as follows: the second chapter depicts the theoretical framework on which the meta-analysis is carried out. Several research gaps are exposed, which lead to the main research question and more detailed sub-questions. Chapter 3 gives an overview of the included papers as well as methodologies and data bases which served to answer the research questions. The key findings are presented and discussed in chapter 4. Finally, chapter 5 summarizes key findings and contextualizes these with the theoretical framework. On this basis, theoretical contributions as well as practical implications are derived. The conclusion briefly summarizes the key findings of this PhD thesis.

2 THEORETICAL FRAMEWORK AND RESEARCH GAPS

2.1 The role of consumers in transformation processes towards sustainable consumption

The individual papers included in this framework paper focus on the relationship between consumers' attitudes, motivations, and behavior in the context of sustainable purchasing. The focus on this micro perspective, however, does not reflect consumers' role in the transformations towards sustainable consumption. Therefore, the present framework paper puts the included papers into a greater context and analyses the overall findings on a meta-level by applying an enhanced transition management (TM) theory as proposed by Rauschmayer et al. (2015).

Transitions or transformations (the latter being used in the management literature to express that the target state is unknown, e.g. Dean & McMullen, 2007; Hockerts & Wüstenhagen, 2010; Schaltegger, Lüdeke-Freund, & Hansen, 2016) are defined as disruptive structural changes of societal systems which are driven by connected developments in different areas such as economy, culture, technology, ecology, or institutions (Rotmans & Loorbach, 2009). Within transition research, the multi-level perspective (MLP) plays a dominant role as a framework to analyze the dynamics of change (Rauschmayer et al., 2015). The MLP conceptualizes transitions along three analytical levels: niches, regimes, and an exogenous landscape (Geels, 2011). Niches offer spaces for radical innovations and are represented by small groups of actors. These innovations may challenge the mainstream, the so-called regimes. Regimes stand for the prevailing structures including established perspectives and practices. Incumbent regimes may also be challenged by developments in landscapes. Landscapes comprise global trends or globally shared norms which cannot be influenced directly by individual actors (Rotmans & Loorbach, 2009).

TM and MLP alone can hardly depict the role of consumers, because their focus is on systems. Thus, the framework does not sufficiently consider individuals and their agency (Rauschmayer et al., 2015). Therefore, Rauschmayer et al. (2015) suggest completing transition management approaches with elements from the capability approach (CA) (Sen, 1993) and practice theory (PT) (Bourdieu, 1977) to integrate the perspective of individuals and areas for change. These concepts are outlined in the following.

The CA is a broad interdisciplinary framework for the evaluation and assessment of individual well-being and social arrangements, the design of policies, and proposals about change in society (Robeyns, 2005). Capabilities are defined as the freedom of individuals to pursue a life they value (Rauschmayer et al., 2015) with bearing in mind their abilities and opportuni-

ties to undertake certain activities and actions (Robeyns, 2005). Thus, capabilities depend on personal, market and structural factors. By integrating the focus of CA (individuals and their capabilities) into TM approaches, a theoretical foundation for individuals and their agency is added (Rauschmayer et al., 2015). At the same time, the CA leaves space for an ethical dimension related to sustainability issues by incorporating freedom of choice which is based on individual values (Ballet, Koffi, & Pelenc, 2013). In market economies, the model of consumption has long been reflected by the concept of consumer sovereignty. Consumer sovereignty is based on the assumptions of freedom of consumption on the demand side and perfect competition on the supply side. Consumers are understood as sovereign individuals who maximize their individual utility in the sense of a rational homo oeconomicus. However, it is questionable if this model reflects the reality of modern societies (Hansen & Schrader, 1997) along with their social and environmental challenges (Geels, 2011). Most sustainable solutions do not offer obvious user benefits because sustainability is a collective good. Thus, individuals have only limited incentives to engage in sustainable behavior (Geels, 2011). A full use of consumer sovereignty (unlimited satisfaction of one's individual needs) might have consequences which are not accounted for in the market – but which will be borne by others (Hansen & Schrader, 1997). Therefore, Geels (2011) emphasizes the role of public authorities in setting tangible economic and legal incentives to motivate individuals to engage in sustainable consumption. However, research found that despite strong political efforts in the form of market development support and information measures, consumers are not yet deeply engaged in contributing to the transformation to more sustainable consumption patterns (Vittersø & Tangeland, 2015). This finding implies that legal actions and structural changes are necessary, but not yet sufficient conditions for transformations to sustainable consumption. Furthermore, consumers might also suffer from vendor-, technological or cognitive lock-in effects. Instead of switching to more sustainable choices, existing (unsustainable) preferences are maintained based on dependence or social meaning (Harrison, Beatty, Reynolds, & Noble, 2012).

Thus, consumers and their capabilities have to be understood holistically, because individuals are not always in a position to formulate demand according to their needs and to act as sovereign individuals (Hansen & Schrader, 1997). A holistic understanding enables actors in transformation processes to set tailor-made and, thus, prospectively successful incentives to promote sustainable consumption. Only if consumers are actively involved in transformation processes and accept innovative sustainable goods, a transformation towards a sustainable consumption culture is deemed to be successful.

The link between systems within TM and individual actors such as producers or consumers are practices (Shove & Walker, 2010). Practice theory (PT) goes back to the ideas of Bourdieu (1977) who defines practices as unconscious behavior that are in line with interests and aim at achieving objectives. Thus, practices are routinized types of behavior (Reckwitz, 2002). In the present context, PT offers a framework to integrate and understand everyday changes towards sustainable development. Practices are put into action by individuals or agents. Although practices are neither identical from one agent to another, nor consensually perceived as such, they develop into a form of coherence at the societal level. Hence, practices become meaningful in the collective. The niche might be a particular form of the collective, out of which coherent practices may spread further (Rauschmayer et al., 2015). Practice theory claims that social phenomena should be explained by focusing on the individual and his / her agency (methodological individualism and individual agency) (Reckwitz, 2002). In the terms of PT, the aim of transformations towards sustainable consumption is to replace established and unsustainable practices by sustainable practices. If not only one agent, but a collective changes their practices, a structural change or transformation towards sustainable consumption is achieved.

Practices can be structured along fields, such as e.g. education or economy (Spaargaren, 2011). The present paper focuses on the field of private consumption and the domain of consumer goods (FMCG). Especially practices which are linked to sustainable consumption, and more precisely to shopping, are analyzed. Whereas consumption is defined more broadly and includes the use of services and related products (Hansen & Schrader, 1997), shopping as a practice considers buying, but also includes practices that lead to purchases (Fuentes, 2014).

In sum, transition management can be seen as the foundation for sustainability transformations and their management. Changes will only occur if systems provide and distribute (sustainable) innovations and if consumers are motivated and willing to adopt these. Therefore, this framework paper reflects on the role of consumers to the transformation towards sustainable consumption on the basis of the summarized and abstracted empirical evidence provided by the individual papers. By incorporating perspectives from PT and the CA, the transition management framework is able to depict the interplay of systems, practices and individual agency. Figure 1 illustrates the basic framework. On the micro-level, consumers and their capabilities are analyzed. These consumers have certain practices which form the dominant regime, but are not yet sustainable. In the transformation process, consumers devel-

op or adopt new and sustainable practices, which will ultimately become mainstream and, thus, represent the “new” regime of sustainable practices.

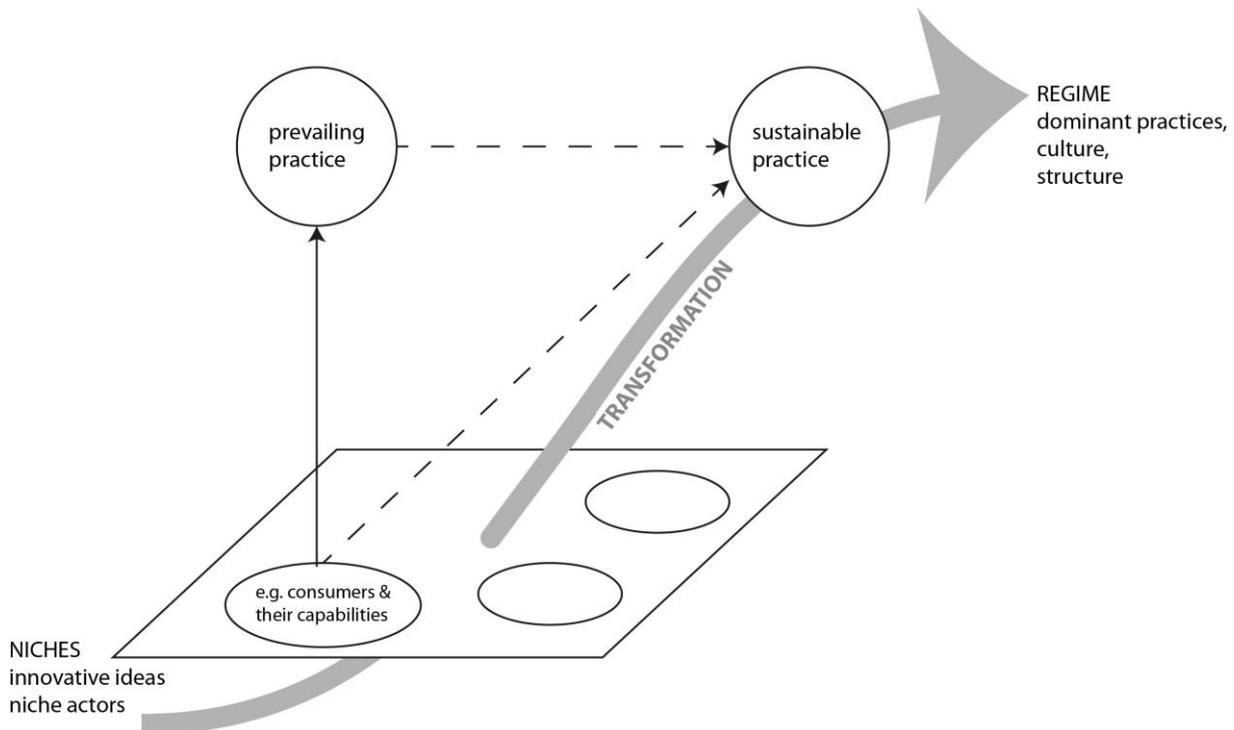


Figure 1: Theoretical framework combining and adapting Loorbach and Wijsman (2013) and Rauschmayer et al. 2015

2.2 Research gap and research questions

TM stresses the crucial importance of businesses for transformations. Especially companies are important actors for this process, because such businesses form a major part of incumbent regimes (Geels, 2011; Loorbach & Wijsman, 2013). Firms are also considered as key actors because they introduce (sustainable) innovations to the market (Boons, Montalvo, Quist, & Wagner, 2013). Thus, research in this field largely focuses on companies and their roles and potentials in the transformation towards sustainable markets (Fischer & Newig, 2016; Johnson & Schaltegger, 2016; Schaltegger et al., 2016). However, not only companies, but also consumers are crucial for the successful transformation to a sustainable consumption culture. Consumers can help destabilize dominant regimes as well as put pressure on governments and companies to support new alternatives (Mickwitz, Hildén, Seppälä, & Melanen, 2011). Furthermore, they are crucial agents in development or diffusion stages. Whereas companies introduce (sustainable) innovations to the market, consumers play the key role in adoption and diffusion of products (Im, Bayus, & Mason, 2003; Vittersø & Tangeland, 2015). Consumers are not just purchasers of sustainable products, but rather enactors of ways of life (Mickwitz et al., 2011). Therefore, companies have to understand consumers and their underlying rea-

sons for product adoption and purchases to design not only effective marketing strategies (Wang, Dou, & Zhou, 2008), but also successful business models (Boons & Lüdeke-Freund, 2013). Research can analyze and understand human needs, values, and practices by focusing on consumers. On this basis, consumers can be properly informed, empowered and encouraged to act according to the SDG. The analytical challenge is to understand the ongoing dynamics and find the most effective points of intervention. However, the literature has yet paid only little attention to these dynamics (McMeekin & Southerton, 2012). Thus, the present framework paper strives to integrate the insights and findings from the papers included into the TM framework with special regard to consumers' personal capabilities and purchasing practices to answer the following overarching research question:

How can insights from consumer research be integrated into an enhanced transition management theory to support the successful transformation of consumption practices towards more sustainability?

In the following, the general research question is enhanced by sub-questions which cover yet unaddressed issues in the field of sustainable consumption.

Although the overwhelming majority of consumers considers themselves to be aware of environmental and social issues (GfK, 2015), consumers' concerns do not seem to make them buy sustainable products (Carrigan & Attala, 2001). Studies in the area of sustainable purchasing behavior yet lack an in-depth understanding of purchasing motivations and the influence of motivation and attitudes on behavior. Research yet has to explain how individual purchasing decisions unfold in this context (Jayawardhena, Morrell, & Stride, 2016). Besides these issues with regard to content, also some methodological issues remain. Most studies on sustainable consumer behavior come from the marketing field. Naturally, these studies do not take an environmental perspective, but refer to consumers' perceptions of sustainable products. However, the assessment of a product's level of sustainability is highly challenging for consumers because such an assessment requires the consideration of various product characteristics. Hence, consumers might not be able to assess the sustainability of products correctly (Tobler, Visschers, & Siegrist, 2011). Furthermore, most studies that analyze sustainable purchasing behavior either focus on behavioral intention as a proxy for behavior (Auger, Devinney, Louviere, & Burke, 2008; Lu, Chang, & Chang, 2015; Schuitema & Groot, 2015) or rely on self-reported survey data (Follows & Jobber, 2000). Results from such studies are vulnerable due

to self-presentational bias (Gaes, Kalle, & Tedeschi, 1978) and social desirability bias (Sun & Morwitz, 2010). Furthermore, results may be biased because it is not clear if consumers are able to differentiate a sustainable product from a conventional product.

In order to address the preceding mentioned research gaps with regard to content and methodology, the central objective of this PhD thesis is to examine consumers' purchasing decisions empirically by the help of rigorous qualitative and quantitative methods. Results will be a helpful basis to understand consumers and their role in transformations towards sustainable consumption to foster and increase sustainable practices. Based on this general objective, four research foci are dealt with (see Figure 2):

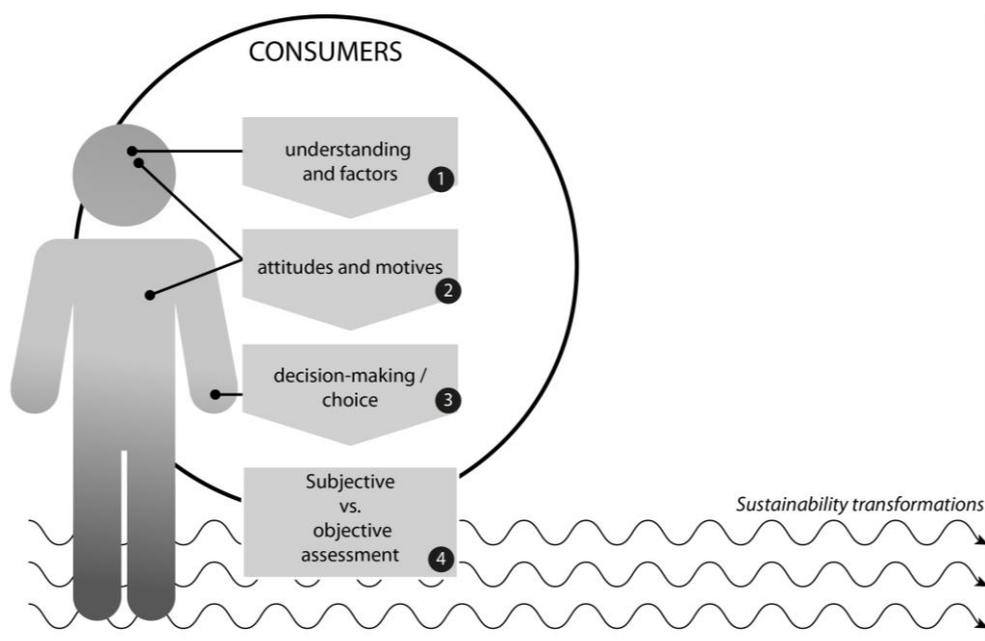


Figure 2: Research Foci

First, in order to increase the contribution of consumers to transformations towards sustainable consumption, it is important to know what consumers understand by the term “sustainability”. Recent research on sustainable products explores consumers' general understanding of sustainability by proposing pre-defined categories, attributes or labels to stimulate consumers' responses (Hanss & Böhm, 2012). However, research designs which frame sustainability and use leading and / or closed-ended questions distort the results due to social desirability bias.

It is also still unclear which factors play major roles in the decision-making process. Previous empirical studies primarily investigated the effects of single influencing factors, such as attitude (Hauser, Nussbeck, & Jonas, 2013; Tarkiainen & Sundqvist, 2009), norms (Thøgersen, 2002), general perceived control (Arvola et al., 2008) or barriers such as price (Aschemann-Witzel & Zielke, 2015; Gleim, Smith, Andrews, & Cronin Jr., 2013) on specific aspects of

various sustainable behaviors. However, little is known about the relative importance and the respective structure of these factors. Therefore, the research questions (RQs) of the first focus – understanding and determining factors – are as follows:

RQ1a: *What do consumers understand by the term “sustainability”?*

RQ1b: *Which factors are crucial for sustainable purchasing behavior?*

Second, research has been especially interested in the influence of attitudes towards sustainability related issues on behavior. Results concerning this relationship, however, are inconsistent. Some studies identify a weak link between attitude and behavior which suggests a gap (Gupta & Ogden, 2009; Kollmuss & Agyeman, 2002; Peattie, 2001). Other studies, in contrast, put forward counterevidence. In the context of organic food, attitudes are good predictors of sustainable behavior (Hauser et al., 2013; Pino, Peluso, & Guido, 2012; Zhou, Thøgersen, Ruan, & Huang, 2013). This inconclusive evidence raises the question if attitude towards sustainability really is a determining factor for purchasing behavior.

Besides attitude, motives might also be able to explain sustainable purchasing behavior. Individuals expect that decisions and choices satisfy relevant motives (Chen, Duckworth, & Chaiken, 1999). Several qualitative studies examined primary motivations and beliefs in the context of the consumption of sustainable products (Hughner, McDonagh, Prothero, Shultz, & Stanton, 2007). However, there is still no quantitative analysis of the respective impacts of motives. Furthermore, it is unclear if motives differ across categories. To address these issues, the second focus – attitudes and motives – is subsumed under the following research questions:

RQ2a: *How does attitude influence sustainable purchasing behavior?*

RQ2b: *Which motives drive sustainable purchasing behavior?*

Third, models in the context of sustainable consumption are mainly conceptualized around rational choice theories (Kollmuss & Agyeman, 2002; Peattie, 2010). However, consumers might not be motivated to engage in a great deal of rational decision-making at the time of purchase when the product is purchased repeatedly and is relatively unimportant (Hoyer, 1984). On this basis, concepts of behavioral economics such as bounded rationality (Simon, 1955) or heuristics (Gigerenzer & Brighton, 2009) seem to be promising concepts for understanding purchasing decisions in favor of sustainable products. However, research has scarce-

ly considered heuristics in this context so far. Therefore, the third RQ on decision-making and choice focuses on the nature of the decision-making process in the context of sustainable purchasing behavior:

***RQ3:** How do consumers decide in favor of sustainable products?*

Fourth, if useful information is provided at the point of sale, consumers' abilities to differentiate between conventional and sustainable products is increased. Practical assistance such as sustainability labels are available in almost every product category (Pedersen & Neergaard, 2006; Thøgersen, Haugaard, & Olesen, 2010). In line with this reasoning, consumers state that they are satisfied with the available information about sustainable products (Vittersø & Tangeland, 2015). However, studies found that consumers are not capable of assessing the sustainability of products correctly (Tobler et al., 2011). Thus, consumers might struggle to make objective assessments in the context of sustainable consumption. Therefore, the fourth research question focuses on the potential gap between the subjective and objective assessment of the level of the (relative) sustainability of products:

***RQ4:** Is consumers' self-reported sustainable purchasing behavior also sustainable from an objective point of view?*

3 METHODOLOGY

3.1 Contributions of included papers to research questions

This framework paper makes a connection between transformations towards sustainable consumption and consumers' decision-making processes. Previous literature has focused on the role of companies in sustainability transformation processes (Johnson & Schaltegger, 2016; Loorbach & Wijsman, 2013; Schaltegger et al., 2016). However, these perspectives have not yet integrated findings from consumer research. This PhD thesis offers an original contribution into this specific area by investigating consumers' decision-making processes and integrating the generated insights into an enhanced transition management theory. The included academic papers contribute to answering the research questions posed in the previous section. Table 1 presents an overview of these papers and connects their research focus to the corresponding research questions of the present framework paper.

Table 1: Overview of PhD-relevant papers and application to research questions

Paper #	Short title	Author/s and year of publication	Corresponding Research Questions
1	Thinking green	Moser, A. K. (2015)	RQ 1, 2
2	Consumers' purchasing decisions	Moser, A. K. (2016)	RQ 1, 2, 4
3	Buying organic	Moser, A. K. (2016)	RQ 2-4
4	Quantitative and qualitative insights	Eberhart (née Moser), A. K., Naderer, G. (forthcoming)	RQ 1-4
5	Attitude-behavior hypothesis	Moser, A. K. (2015)	RQ 1, 2, 4
6	Deciphering sustainable consumption	Moser, A. K., Naderer, G. (2016)	RQ 1-4
7	Deciphering sustainable consumption	Moser, A. K., Naderer, G. (2016)	RQ 1-4

3.2 Operationalization of sustainable products

Every product has environmental and social impacts stemming from e.g. production, consumption / usage or disposal. Thus, products are at best more or less sustainable than available alternatives. In the present framework paper, such (relatively more) sustainable products refer to products which are oriented towards sustainable development. In concrete terms, such products have one or several inherent attributes which reflect moral principles. These attributes can be related to a variety of environmental issues (e.g., recycling, avoiding pollution) and social issues (e.g., fair labor practices, humane treatment of animals) (Luchs, Naylor, Irwin, & Raghunathan, 2010).

The included papers operationalize sustainable products based on several considerations. Although consumers state that they care for sustainability, they generally do not know about specific sustainable features of most of the products they consume (Leire & Thidell, 2005). If being asked about the sustainability of groceries, consumers place high importance on e.g. low energy use or low carbon dioxide emissions during production and shipping (Hanss & Böhm, 2012). These features, however, are not directly perceivable. Consumers either have to infer these features from information which is provided on the product's packaging or they have to search for more information beyond the shelf. However, the assessment of a product's level of sustainability is highly challenging for consumers because they have to consider and assess various product characteristics (Tobler et al., 2011). Therefore, the papers take a consumer perspective while simultaneously considering results from scientific studies on the social or environmental impacts of products. Specific sustainable attributes (e.g. labels or certifications) are defined with bearing in mind which information is available and obtainable for consumers. Furthermore, the attributes have to be relevant in the decision-making process.

Thus, sustainable products are not only preferable from an environmental or social viewpoint, but also easily identifiable, available and relevant for consumers.

3.3 Data bases and data analyses

The analyses draw on different data sets to adequately answer the research questions and test the hypotheses in the respective articles included in this framework paper. In particular, the following data sets are incorporated (date collected / period of time observed):

- in-depth interviews (2015),
- scanner data from a German drugstore chain (3/2014 – 2/2015),
- GfK household panel data: survey data (2012),
- GfK household panel data: scanner data (1 – 12/2012).

The market research institute GfK (one of the world's leading market research institutes) as well as a major German drugstore chain provided large data sets which consisted of real transactions ("scanner data"). Applying such large data sets of actual purchases has a great empirical merit because it ensures a high level of external validity. Such data bases strengthen the reliability of the studies and help to overcome many of the criticisms related to the artificiality of laboratory research (Schram, 2005), self-presentational biases (Gaes et al., 1978), incorrect estimation of own behavior (Barber, Pei-Jou Kuo, Bishop, & Goodman Jr, 2012) and the potential difference between stated intention and actual purchasing (Sun & Morwitz, 2010). Sampling up to seven product categories also enables to reveal potential differences between the respective categories. GfK scanner data is matched with GfK survey data by using households' identification numbers. Additionally to this unique single-source approach, a mixed-methods research design is employed to overcome the limitations of self-reported scales (Szmigin, Carrigan, & McEachern, 2009). Mixed methods are effective in answering both exploratory and confirmatory questions by comparing qualitative and quantitative data (Spillman, 2014). Thus, qualitative and quantitative data complement and enrich each other which enables a thorough understanding of the research issues.

Table 2 provides a detailed methodological overview.

Table 2: Data bases and analyses applied in included papers

Paper #	Short title	Data bases	Sample size	(Statistical) Analyses	Tools
1	Thinking green	GfK household panel: survey data	n = 12,113	<ul style="list-style-type: none"> • descriptive statistics • exploratory factor analysis • confirmatory factor analysis • structural equation models • cross-validation procedure 	IBM SPSS IBM SPSS Amos
2	Consumers' purchasing decisions	GfK household panel: survey and scanner data	n = 1,760	<ul style="list-style-type: none"> • descriptive statistics • exploratory factor analysis • confirmatory factor analysis • structural equation models • power-analysis 	IBM SPSS IBM SPSS Amos
3	Buying organic	GfK household panel: survey and scanner data	n = 1,760	<ul style="list-style-type: none"> • descriptive statistics • exploratory factor analysis • confirmatory factor analysis • structural equation models 	IBM SPSS IBM SPSS Amos
4	Quantitative and qualitative insights	In-depth interviews	n _(qual.) = 21	Mixed methods <i>Qualitative:</i> <ul style="list-style-type: none"> • interpretive, grounded approach • means-end chain analysis 	MaxQDA Excel
		Scanner data from drug-store chain	n _(quant.) = 10,272,477	<i>Quantitative:</i> <ul style="list-style-type: none"> • descriptive statistics • t-test • cluster analysis / segmentation 	IBM SPSS
5	Attitude-behavior hypothesis	GfK household panel: survey and scanner data	n = 1,605	<ul style="list-style-type: none"> • descriptive statistics • exploratory factor analysis • confirmatory factor analysis • structural equation model 	IBM SPSS IBM SPSS Amos
6	Deciphering sustainable consumption	In-depth interviews	n = 17	<ul style="list-style-type: none"> • interpretive, grounded approach • means-end chain analysis 	MaxQDA Excel
7	Deciphering sustainable consumption	In-depth interviews	n = 17	<ul style="list-style-type: none"> • interpretive, grounded approach • means-end chain analysis 	MaxQDA Excel

4 DISCUSSION OF KEY FINDINGS

The results and findings of this PhD thesis are published in separate papers which can be grouped according to the four research foci and the corresponding research questions (refer to Table 1). The organization of the following sub-sections adopts the research foci, integrates the results, and interprets the findings in the light of existing research.

4.1 Determining factors of sustainable consumption

The papers included demonstrate that consumers' understanding of sustainability is heterogeneous. Ideas vary from a simple lexical and product-related understanding to a holistic knowledge which includes environmental and social aspects. Sustainability-related knowledge can only develop if consumers are aware that their (purchasing) behavior has environmental and social consequences. This problem awareness creates a motivational state in which consumers feel that they have to act (Eberhart & Naderer, forthcoming; Moser, Naderer, & Haubach, 2017). Thus, problem awareness is a fertile foundation on which sustainable consumption can thrive. However, awareness in itself does not simply lead to sustainable behavior (Bamberg, 2003; Mainieri, Barnett, Valdero, Unipan, & Oskamp, 1997). Further determining and important factors were also identified. These are analyzed in the following.

Personal norms and the willingness to pay (WTP) a premium represent major drivers of sustainable purchasing (Moser, 2015b). This is in line with results from previous studies in the field of e.g. organic food (Arvola et al., 2008; Kim & Chung, 2011) and energy-efficient products (Ha & Janda, 2012), respectively. The concept of WTP is closely related to product prices: the choice of a sustainable product comes along with additional costs. In average, consumers have to spend approximately 80 % more money if they prefer sustainable groceries to conventional groceries (Haubach & Held, 2015). Consumers usually cite such higher prices as a main barrier to sustainable consumption (Vega-Zamora, Torres-Ruiz, Murgado-Armenteros, & Parras-Rosa, 2014). However, price is not necessarily perceived as a barrier, but as value for money. If consumers are in a position to justify a price premium through other gains, they are willing to pay more (Padel & Foster, 2005). From a consumers' point of view, sustainable products might offer benefits which compensate for higher prices (Burke et al., 2014; Thøgersen et al., 2012). Higher prices are also perceived to be a signal for higher quality (Ngobo, 2011). Therefore, a price premium is not perceived as a barrier (Olsen, Slotegraaf, & Chandukala, 2014), but is accepted (Thøgersen et al., 2012). These findings underline that not price, but the perceived value for money and, thus, the WTP for sustainable products is a cru-

cial predictor for purchasing. Only consumers who are willing to accept the price premium are also likely to purchase sustainable products (Moser, 2016a).

4.2 Consumers' attitudes and motives

Besides WTP and norms, the literature frequently considers attitude as a factor which may influence behavior (Haubach, Moser, Schmidt, & Wehner, 2013). However, there is considerable variability in the degree to which attitudes can predict behavior (Glasman & Albarracín, 2006). In the present context, attitude is not significantly related to sustainable buying (Moser, 2015a, 2015b, 2016a). Thus, the results imply an attitude-behavior gap. Although consumers generally care for the environment and also try to access their positive attitudes towards sustainability and / or sustainable products in purchasing situations, only a minority of consumers actually buys sustainable products (Eberhart & Naderer, forthcoming; Moser, 2016a). In line with these findings, several studies acknowledge only a low attitude-behavior correlation for sustainable motivated buying (Gupta & Ogden, 2009; Kollmuss & Agyeman, 2002; Mainieri et al., 1997) and fail in predicting such behavior through assessing consumer attitudes (Peattie, 2001). Attitude only has a great predictive value for behavior which is not expensive or difficult to perform (Stern, 2000). The importance of attitude decreases if further factors are included into models of behavior (such as WTP and norms in the present context) (Shah, Kumar, & Kim, 2014).

Competing motives might also contribute to the gap between attitude and behavior. Consumers only purchase sustainable products if products meet their needs. Whereas both the importance and the prevalence of product attributes naturally differ across categories – e.g. taste for food categories, scent for personal care products – underlying motives and values are strikingly similar. Health is an especially important driver, both in the category for personal care products (Moser & Naderer, 2016a, 2016b), as well as in the category of food (Moser, 2016b). Furthermore, universalism plays a central role in sustainable consumption (Eberhart & Naderer, forthcoming, forthcoming; Moser & Naderer, 2016b). Universalism is a value which is connected to the understanding, appreciation, and protection for the welfare of all people and for nature (Schwartz et al., 2012). However, sustainability-related motives do only play a decisive role for a small segment of consumers which is highly involved in sustainability issues. Other consumers struggle with competing motives. They demand products that both satisfy self-interested and environmental motives, but do not see how these motives can be reconciled. Thus, they mostly prefer conventional products which fulfil self-interested motives (Eberhart & Naderer, forthcoming; Moser & Naderer, 2016b).

Self-interested motives, however, are also key drivers of consumers who choose sustainable products (Eberhart & Naderer, forthcoming; Moser, 2016b). In contrast to research on sustainability and consumption behavior which often emphasizes environmental or altruistic motives (Egea & de Frutos, 2013; Honkanen, Verplanken, & Olsen, 2006), the papers included reveal the importance of self-interested motives as a key driver for all consumers (Eberhart & Naderer, forthcoming; Moser, 2016b). Thus, the findings underline that sustainable attributes might not be attractive enough to foster demand for most consumers although they might have a general positive attitude towards sustainability. Consumers generally approve of sustainable products and expect that products fulfill a certain level of sustainability (Haubach & Moser, 2016). However, they are not willing to trade off functional attributes against sustainable attributes (Auger et al., 2008; Olson, 2013).

4.3 Understanding decision-making processes

The included papers revealed discrepancies between attitudes and behavior. Attitudes might not play a role in purchasing decisions, because the situations in which they take place require only limited problem-solving strategies (Tarkiainen & Sundqvist, 2009). Thus, discrepancies may arise if consumers respond to immediate cues instead of undertaking a reasoned analysis of these (Chen et al., 1999). This phenomenon can be explained by the heuristic-systematic model which differentiates systematic processing from heuristic processing (Chaiken, 1980). Whereas systematic processing involves a relatively comprehensive and analytic scrutiny of information, heuristic processing involves the use of judgmental rules or so-called heuristics. Decisions which are formed on the basis of heuristic processing reflect easily processed heuristic cue information, rather than particular information (Chen et al., 1999). Thus, heuristics are simple selection rules or tactics that provide a satisfactory choice while allowing a quick and effortless decision (Hoyer, 1984). Researchers often assume that consumers analyze information about sustainability systematically, since this is consistent with the concerns they express about corresponding problems. Consumers are supposed to go through the whole decision-making process in the store, weighting and re-evaluating all of their salient needs and concerns (Carrington, Neville, & Whitwell, 2014). However, busy and distracting environments such as supermarkets rather promote the use of heuristics because opportunities to gather and reflect on information are limited (Hoek, Roling, & Holdsworth, 2013; Moser et al., 2017).

The papers included corroborated that decision-making heuristics are a promising concept for understanding purchasing decisions in favor of sustainable products (Eberhart & Naderer, forthcoming; Moser, 2016b). Heuristics exploit the available cues of the environment and enable effortless decisions. The vast majority of consumers rely on a single cue related to e.g. price or performance when deciding on an everyday product. Some consumers simply choose the organic alternative (Thøgersen et al., 2012). Thus, the organic attribute and / or corresponding labels serve as a heuristic cue (Vega-Zamora et al., 2014). In the context of personal care products, labels such as Natrue or the V-label for vegan products are used. Furthermore, claims, design and packaging material can also serve as a tactic to identify sustainable products (Eberhart & Naderer, forthcoming; Moser et al., 2017).

However, a heuristic cue might only be used for decision-making if further decisive factors are also considered. As discussed in chapter 4.1, consumers perceive especially price as a barrier to the purchase of sustainable products. Therefore, consumers have to accept a price premium if they prefer sustainable products over conventional alternatives. The structure of the heuristic factor reflects these critical product features. On the one hand, the heuristic cue functions as a simple decision rule by which consumers are enabled to reduce time and efforts in everyday purchasing situations. On the other hand, the preference for sustainable products causes additional costs for consumers which is reflected by a higher willingness to pay (Moser, 2016b).

4.4 The divergence of subjectively and objectively sustainable behavior

Additionally to the gap between attitude and behavior, there is also a divergence between consumers' self-reported behavior (SRB) and their actual purchasing behavior (Moser, 2016a). This divergence can be reasonably attributed to consumers' limited expertise and competence (Eberhart & Naderer, forthcoming; Moser & Naderer, 2016b).

Expertise plays a critical role in purchasing decisions (Gleim et al., 2013; Thøgersen et al., 2010). This issue partially accounts for the gap between the subjective and objective assessment of environmental impacts of products and, hence, leads to unsustainable purchasing decisions (Moser, 2016a). Consumers struggle to make objective assessments in the context of sustainable consumption. They use heuristic cues to infer the sustainability of a product. However, these cues are not necessarily reliable indicators. Although cues such as natural visuals might imply sustainability, they are not an objective source for the assessment of the degree of sustainability of a product (Eberhart & Naderer, forthcoming; Moser & Naderer, 2016b). Whereas consumers are well aware of organic labels (Janssen & Hamm, 2012), they

overlook and ignore established labels in other categories such as personal care products. For the majority of consumers, sustainable product attributes are not obvious. Only a small segment of responsible consumers is willing to inform themselves about sustainability features beyond the shelves. These consumers read specific magazines (e.g. retailer's magazines), search the internet (search engines, manufacturers websites) or use mobile apps (refer to <http://www.codecheck.info> or <http://www.bund.net/toxfox>) to support their decisions in favor of sustainable products. Only these consumers are able to make true sustainable product choices. The remaining consumer segments, in contrast, are not able to differentiate between sustainable products and conventional products. These consumers do not make the effort to inform themselves. They deduce the sustainability of products from the positive image and (perceived) expertise of e.g. the retailer (deductive reasoning, expert heuristic). Instead of taking responsibility, consumers delegate the responsibility to trusted retailers and manufacturers and expect that the latter take care of the issue (Eberhart & Naderer, forthcoming; Moser & Naderer, 2016b).

5 THEORETICAL CONTRIBUTIONS AND PRACTICAL IMPLICATIONS

5.1 Key findings in the context of consumers' role in transformations towards sustainable consumption

Low market shares of sustainable products show that unsustainable shopping practices still prevail. From a normative and sustainability transformation perspective, these practices should be transformed into more sustainable practices. Essentially, these key findings regarding sustainable purchasing decisions underline that

1. there is not the one sustainable consumer, there are rather different segments with different understandings, motivations and practices,
2. there is a gap between attitude and behavior which can be attributed to barriers and competing motives,
3. consumers do not engage in elaborated information processing, but rather apply heuristics,
4. there is a gap between subjective and objective assessments of the level of sustainability of products which can be attributed to a lack of competence and expertise.

If these results are analyzed on a meta-level against the backdrop of the enhanced transition management theory outlined in chapter 2.1, the overarching research question can be answered. Thus, possible paths to foster the transformation towards more sustainable practices – especially in the context of shopping practices – are revealed. The findings underline that sustainable consumption is rather to be understood as an overarching concept than as a lifestyle. The degree to which practices are oriented towards sustainable development differs along with their location in different segments. As highlighted in chapter 2.1, not only legal actions and structural changes in systems are necessary to establish more sustainable consumption practices, but also the active engagement of companies and consumers. In order to facilitate change towards more sustainable practices, TM can be used to identify sustainable niches of practices that are different from the regime practice (Rauschmayer et al., 2015). Nowadays, those niches of practices are reflected by e.g. shopping of organic products or natural personal care products. These practices might be completed by innovations and further emerging practices in the future, but also by practices in other fields and domains which reflect broader aspects of consumption (e.g. sharing instead of buying / owning).

The included papers revealed that sustainable products and consumers who buy them still only represent a niche today. Although sustainable attributes are integrated into product marketing strategies and might even be the key selling proposition, this attribute does not yet drive mainstream consumption. Thus, consumers' capabilities and their agency have to be understood. Only if individual factors and motivations are considered, a successful transformation towards more sustainable practices can be set in motion. The empirical evidence underlines that sustainable attributes are valuable add-ons which, however, cannot compensate for self-interested benefits. Furthermore, consumers practically manage the complexities of sustainable consumption by developing heuristic strategies to reduce cognitive workload and enable quick decisions. However, these strategies result from subjective assessments of sustainability and might not ensure true sustainable practices.

Although (some) consumers acknowledge the responsibility for their consumption, the limits of sustainable consumption as a driver for transformations towards sustainable consumption have to be recognized. Consumers cannot take charge of the issue alone (for a discussion see Akenji, 2014). Rather, companies and consumers have to contribute to the transformations as partners. Such a shared responsibility enables both actors to live up to their roles and the expectations they have of each other. Beyond this management perspective, legal authorities and other organizations could also fall back upon the findings and take corresponding actions.

Overall, transformations towards sustainable consumption pose three major challenges. Firstly, more consumers have to be motivated to engage in sustainable practices to foster the transformation from sustainable niche practices to mainstream practices. It is essential that individuals understand the impact of their behavior and that their behavior is sustainable from an objective perspective. Secondly, the transformation will only be successful if companies consider consumers' personal capabilities and agency. Availability and tailored information (going beyond classic information / information channels) have to be ensured. Thirdly, products have to satisfy sustainability motives and personal motives of consumers simultaneously. Although sustainability is a pressing issue, most individuals do not experience a direct benefit from sustainable practices. The consequences of behavior are only indirect, because of time-lagged effects and the doubts about the effectiveness of sustainable behavior (can an individual even make a difference?) as well as self-efficacy (anticipated difficulty in performing a behavior). Companies have to bear in mind these critical issues when conceptualizing sustainable business models, sustainable products and corresponding marketing strategies. Chapter 5.3 provides more concrete and practical implications.

5.2 Theoretical contributions and directions for further research

The PhD project first and foremost contributes to academic theory by providing a thorough understanding of consumers' personal capabilities and their agency. The findings reveal why consumers engage or do not engage in sustainable practices. Predominant theories in analyzing consumer choices were analyzed and challenged. The empirical evidence underlines that consumers' motivations and intentions are rarely translated into an objectively sustainable purchasing behavior. Thus, the papers included suggest alternative theoretical approaches such as behavioral economics and the homo heuristicus to draw a more conclusive picture of the role of sustainability attributes in consumers' decision-making processes.

Consumers' personal capabilities and agency were integrated into a superordinate theory, namely the enhanced TM approach. As Rauschmayer et al. (2015) point out, the strength of the combination of TM, CA and practices lies in its practical potential. The framework is a useful guide for governing sustainable transformations that acknowledges normative, individual and societal dynamics. Within PT, it is neither possible to distinguish between sustainable and unsustainable practices nor to steer and govern the development from one to another. As the findings show, numerous sustainable and unsustainable practices co-exist, especially between the segments. With the help of TM and CA, a framework for the transformation from unsustainable practices to more sustainable practices can be established. In a second step, the

development from niches to mainstream can be promoted by integrating and considering individuals' capabilities.

The present framework paper developed this approach further by scrutinizing consumers' capabilities and practices in the context of sustainable consumption. It integrated consumers' and companies' perspectives into the framework in order to identify critical avenues for the successful transformation towards a sustainable consumption culture. The findings imply that companies and consumers are interdependent actors which act recursively and enable each other to act more sustainably. Consequently, both actors have to enable each other's contribution to the transformation. Thus, they share a responsibility for the success of sustainable transformations.

The findings revealed that the majority of consumers is still hesitant when it comes to practices in the context of shopping for sustainable products. Therefore, companies have to identify promising niches of practices in which some consumers already engage in sustainable consumption. Alternatively, companies might introduce sustainable innovations and create new markets. By identifying the inherent market potential and designing effective measures, companies might be able to reach consumers in and beyond the niche and, thus, push ahead sustainable transformation. However, companies will only be successful if they integrate the consumer insights gained from the present research into e.g. their value propositions, customer interfaces and marketing strategies. Furthermore, lock-in effects have to be overcome to make it easy and desirable for consumers to adopt sustainable products. Such measures would enable consumers to take responsibility and contribute to sustainable development.

Figure 3 illustrates the theoretical contributions and integrates them into the basic framework.

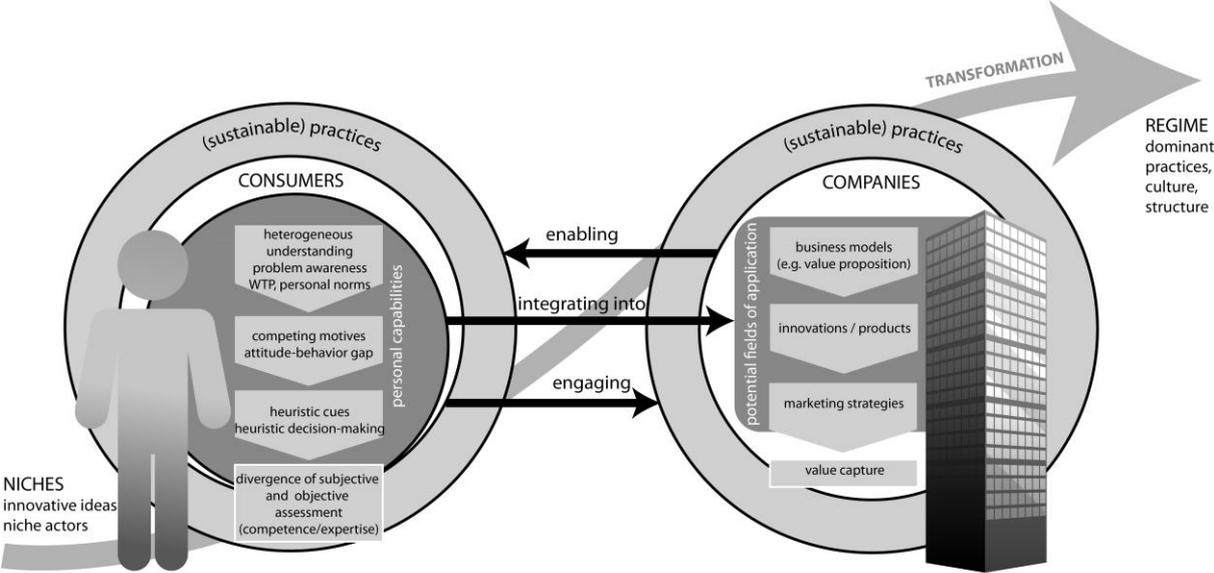


Figure 3: Transformation towards sustainable consumption with focus on the interaction between consumers and companies

The framework paper reflects on consumers' personal capabilities and agency with special regard to consumers' interplay with companies in transformations towards sustainable consumption. Although consumers still are not the major driving force for sustainable transformations, the success depends on their active engagement. On the basis of the empirical findings in the papers included, this PhD thesis offers avenues for a successful transformation. The findings underline that the model of consumer sovereignty based on the homo oeconomicus is hardly compatible with consumers' real choices. Consumers e.g. suffer from information deficits, lack of competence and expertise as well as budget constraints. Consequently, they make imperfect choices. Therefore, the present framework offers an alternative approach to understand consumers and the market they act in which refers to the concepts of capabilities, behavioral economics and the homo heuristicus. If values and capabilities of consumers are considered in designing products and market activities, consumers are enabled to decide in all of their interests (beyond only maximizing their individual utility).

The empirical evidence from the papers revealed promising starting points to push sustainable transformations. Although the present paper took a (marketing) management perspective with special emphasis on consumers, transformations towards sustainable consumption are clearly not only about consumers and companies. Other stakeholders such as public authorities, non-governmental organizations or the civil society as well as the interplay between all these actors have also to be taken into account. Therefore, the present model could be furthered and deepened by these factors and their respective interplay. Stakeholder engagement, though, only provides perspectives, but not yet solutions (Weisenfeld, 2012). Therefore, this enriched model raises the question of the role of each stakeholder and the respective measures (e.g. government interventions such as taxes or emission trading) which could / should be taken to promote sustainable consumption effectively. Thus, the boundaries between companies' and e.g. governmental or civic scopes of action are revealed. Beyond companies and consumers, governments and the civil society are essential mediators for sustainable consumption. An example of a critical field of interest which concerns all stakeholders would be the problem of cost internalization (incorporation of negative external effects covering e.g. environmental issues) and resulting "true prices" of products.

The present dissertation project mainly focused on shopping for sustainable products. Further research might enhance the findings of the present study by scrutinizing further practices which are also essential for sustainable development e.g. in the field of (self-)sufficiency /

voluntary simplicity (McDonald, Oates, Young, & Hwang, 2006) or anti-consumption (Black & Cherrier, 2010) and further activities which focus on usage and general consumption (e.g. sharing).

5.3 Practical implications

Although consumers are crucial for the successful transformation to a more sustainable consumption culture, the included papers revealed that consumers are currently not likely to be a major driving force. The majority of consumers delegates responsibility for sustainability issues to retailers and manufacturers. Companies are expected to embrace such issues and act proactively and sustainably. Although companies can hardly rely on consumers' commitment and knowledge, they will only be successful with consumers' support. The key to a successful transformation, thus, is the consumer. Companies will not "do well *by* doing good" without consumers also "doing well *and* doing good" (Devinney, Auger, & Eckhardt, 2012). Therefore, the successful interplay of these two actors is essential.

If consumers are neither willing to fully embrace their responsibility nor able to make sustainable decisions, retailers and manufacturers have to accept the responsibility for the sustainable consumption of their customers. In a first step, sustainability and responsibility have to be integrated into the strategic thinking and orientation as well as into business models if companies want to be successful in the long-term. In a second step, both the strategic orientation and sustainable business models have to be translated into operative measures.

For companies, it will be not enough to e.g. introduce sustainable product innovations or to incorporate sustainable brands into their assortment. Products and services have to be redesigned, moving away from simply greenwashing towards embracing sustainability issues holistically. Today, only few consumers have the competence to identify sustainable products. However, the remaining segments also need reliable decision-making heuristics which enable easy, efficient, and correct decisions. Therefore, it is necessary to guide consumers to sustainable choices. To this end, not more, but tailored and harmonized information and cues should be provided. Altogether, consumers have to be persuaded, enticed and educated so that they finally can understand the utility of sustainable attributes of their consumption and develop reliable heuristics.

Results underlined the critical importance of WTP. Thus, pricing strategies have to be designed with bearing in mind that consumers do not automatically value sustainable product features. Additionally, such features are mostly not directly tangible. Sustainable attributes mostly do not add up to the basic benefits of a product. Their value is rather emotional and

psychological. Thus, the marketing of sustainable products might be inspired by other products with intangible benefits or by strong brands. However, from a sustainability perspective, not pricing strategies, but “true costs” of products are crucial.

Consequently, building up sustainable business models and mainstreaming sustainable consumption is a difficult long-term endeavor. A broader consumer base has to be established in order to manage the change from a niche to a mainstream market. Choice editing (Peattie, 2010) and nudging (Ölander & Thøgersen, 2014; Sunstein, 2014) might be useful instruments to mainstream sustainable consumption. Whereas choice editing refers to removing the least sustainable products from the market, nudges steer consumers in particular directions (e.g. towards sustainable choices) while simultaneously preserving their free choices. With such instruments, a shopping environment with facilitating conditions could be created to enable consumers to choose sustainable alternatives even with only limited expertise. Increasing visibility, convenience and attractiveness could encourage consumers to buy sustainable products and, thus, contribute to the transformation towards a more sustainable consumption culture. As mentioned earlier, legal incentives have not been very successful in activating consumers (Vittersø & Tangeland, 2015) which is why the present results might also be interesting for policy makers to design effective campaigns.

6 CONCLUSION

Despite growing supply of and information about sustainable products, unsustainable shopping practices still prevail. Consumers practically manage the complexities of sustainable consumption by developing heuristic strategies to reduce cognitive workload and enable quick decisions. However, these strategies result from subjective assessments of sustainability and might not ensure genuine sustainable practices. Furthermore, consumers rather delegate their responsibility for sustainable consumption to companies.

As a consequence, transformations towards sustainable consumption will only be successful if companies and consumers enable each other’s contribution. Such a shared responsibility ensures that both actors live up to their roles and the expectations they have of each other. Although companies can hardly rely on consumers’ commitment and knowledge, they can only be successful with consumers’ support. Therefore, companies should use the insights and findings of this dissertation to design promising business models and effective marketing strategies to promote sustainable products from niches to mainstream. This will help to achieve the SDG regarding consumption and at the same time businesses’ bottom lines will profit from it.

REFERENCES

- Akenji, L. (2014). Consumer scapegoatism and limits to green consumerism. *Journal of Cleaner Production*, 63, 13–23. <https://doi.org/10.1016/j.jclepro.2013.05.022>
- Arvola, A., Vassallo, M., Dean, M., Lampila, P., Saba, A., Lähteenmäki, L., & Shepherd, R. (2008). Predicting intentions to purchase organic food: The role of affective and moral attitudes in the Theory of Planned Behaviour. *Appetite*, 50(2–3), 443–454. <https://doi.org/10.1016/j.appet.2007.09.010>
- Aschemann-Witzel, J., & Zielke, S. (2015). Can't Buy Me Green? A Review of Consumer Perceptions of and Behavior Toward the Price of Organic Food. *Journal of Consumer Affairs*. Advance online publication. <https://doi.org/10.1111/joca.12092>
- Auger, P., Devinney, T. M., Louviere, J. J., & Burke, P. F. (2008). Do social product features have value to consumers? *International Journal of Research in Marketing*, 25(3), 183–191. <https://doi.org/10.1016/j.ijresmar.2008.03.005>
- Ballet, J., Koffi, J.-M., & Pelenc, J. (2013). Environment, justice and the capability approach. *Ecological Economics*, 85, 28–34. <https://doi.org/10.1016/j.ecolecon.2012.10.010>
- Bamberg, S. (2003). How does environmental concern influence specific environmentally related behaviors? A new answer to an old question. *Journal of Environmental Psychology*, 23(1), 21–32. [https://doi.org/10.1016/S0272-4944\(02\)00078-6](https://doi.org/10.1016/S0272-4944(02)00078-6)
- Barber, N., Pei-Jou Kuo, Bishop, M., & Goodman Jr, R. (2012). Measuring psychographics to assess purchase intention and willingness to pay. *Journal of Consumer Marketing*, 29(4), 280–292. <https://doi.org/10.1108/07363761211237353>
- Black, I. R., & Cherrier, H. (2010). Anti-consumption as part of living a sustainable lifestyle: Daily practices, contextual motivations and subjective values. *Journal of Consumer Behaviour*, 9(6), 437–453. <https://doi.org/10.1002/cb.337>
- Boons, F., & Lüdeke-Freund, F. (2013). Business models for sustainable innovation: state-of-the-art and steps towards a research agenda. *Journal of Cleaner Production*, 45, 9–19. <https://doi.org/10.1016/j.jclepro.2012.07.007>
- Boons, F., Montalvo, C., Quist, J., & Wagner, M. (2013). Sustainable innovation, business models and economic performance: an overview. *Sustainable Innovation and Business Models*, 45, 1–8. <https://doi.org/10.1016/j.jclepro.2012.08.013>
- Bourdieu, P. (1977). *Outline of a Theory of Practice*. Cambridge, UK: Cambridge University Press.

- Burke, P. F., Eckert, C., & Davis, S. (2014). Segmenting consumers' reasons for and against ethical consumption. *European Journal of Marketing*, 48(11/12), 2237–2261.
<https://doi.org/10.1108/EJM-06-2013-0294>
- Carrigan, M., & Attala, A. (2001). The myth of the ethical consumer - Do ethics matter in purchase behaviour? *Journal of Consumer Marketing*, 18(7), 560–578.
<https://doi.org/10.1108/07363760110410263>
- Carrington, M. J., Neville, B. A., & Whitwell, G. J. (2014). Lost in translation: Exploring the ethical consumer intention–behavior gap. *Journal of Business Research*, 67(1), 2759–2767.
<https://doi.org/10.1016/j.jbusres.2012.09.022>
- Chaiken, S. (1980). Heuristic versus systematic information processing and the use of source versus message cues in persuasion. *Journal of Personality and Social Psychology*, 39(5), 752–766. <https://doi.org/10.1037/0022-3514.39.5.752>
- Chen, S., Duckworth, K., & Chaiken, S. (1999). Motivated Heuristic and Systematic Processing. *Psychological Inquiry*, 10(1), 44. https://doi.org/10.1207/s15327965pli1001_6
- Dean, T. J., & McMullen, J. S. (2007). Toward a theory of sustainable entrepreneurship: Reducing environmental degradation through entrepreneurial action. *Journal of Business Venturing*, 22(1), 50–76. <https://doi.org/10.1016/j.jbusvent.2005.09.003>
- Devinney, T. M., Auger, P., & Eckhardt, G. M. (2012). Can The Socially Responsible Consumer Be Mainstream? *Zeitschrift für Wirtschafts- und Unternehmensethik*, 13(3), 227–235. <https://doi.org/10.2139/ssrn.2153784>
- Eberhart, A. K., (née Moser), & Naderer, G. (forthcoming). Quantitative and qualitative insights into consumers' sustainable purchasing behaviour: A segmentation approach based on motives and heuristic cues. *Journal of Marketing Management*. doi 10.1080/0267257X.2017.1371204
- Egea, J. M. O., & de Frutos, N. G. (2013). Toward Consumption Reduction: An Environmentally Motivated Perspective. *Psychology & Marketing*, 30(8), 660–675.
<https://doi.org/10.1002/mar.20636>
- European Commission. (2016). Proposal for a Council decision on the conclusion on behalf of the European Union of the Paris Agreement adopted under the United Nations Framework Convention on Climate Change. COM/2016/0395 final - 2016/0184 (NLE). Retrieved from <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2016:395:FIN>
- Federal Environment Agency UBA. (2014). Green Products in Germany 2014: Status Quo and Trends. Retrieved from

https://www.umweltbundesamt.de/sites/default/files/medien/378/publikationen/uba_green_in_germany_2014.pdf

- Federal Environment Agency UBA. (2015). Konsum und Umwelt: Zentrale Handlungsfelder: [Consumption and the environment: main fields of action]. Retrieved from <http://www.umweltbundesamt.de/themen/wirtschaft-konsum/konsum-umwelt-zentrale-handlungsfelder>
- Fischer, L.-B., & Newig, J. (2016). Importance of Actors and Agency in Sustainability Transitions: A Systematic Exploration of the Literature. *Sustainability*, 8(5), 476. <https://doi.org/10.3390/su8050476>
- Follows, S. B., & Jobber, D. (2000). Environmentally responsible purchase behaviour: a test of a consumer model. *European Journal of Marketing*, 34(5/6), 723. <https://doi.org/10.1108/03090560010322009>
- Fuentes, C. (2014). Managing green complexities: consumers' strategies and techniques for greener shopping. *International Journal of Consumer Studies*, 38(5), 485–492. <https://doi.org/10.1111/ijcs.12124>
- Gaes, G. G., Kalle, R. J., & Tedeschi, J. T. (1978). Impression management in the forced compliance situation: Two studies using the bogus pipeline. *Journal of Experimental Social Psychology*, 14(5), 493–510. [https://doi.org/10.1016/0022-1031\(78\)90045-8](https://doi.org/10.1016/0022-1031(78)90045-8)
- Geels, F. W. (2011). The multi-level perspective on sustainability transitions: Responses to seven criticisms. *Environmental Innovation and Societal Transitions*, 1(1), 24–40. <https://doi.org/10.1016/j.eist.2011.02.002>
- GfK. (2015). Consumer Index 12/2015. Retrieved from http://www.gfk-verein.org/sites/default/files/medien/4536/dokumente/ci_12_2015.pdf
- GfK-Verein. (2015). Fokusthema 12/2015: Nachhaltige Bekanntheit. [Special topic 12/2015: sustainability's fame]. Retrieved from <http://www.gfk-verein.org/compact/fokusthemen/nachhaltige-bekanntheit>
- Gigerenzer, G., & Brighton, H. (2009). Homo Heuristicus: Why Biased Minds Make Better Inferences. *Topics in Cognitive Science*, 1(1), 107–143. <https://doi.org/10.1111/j.1756-8765.2008.01006.x>
- Glasman, L. R., & Albarracín, D. (2006). Forming Attitudes That Predict Future Behavior: A Meta-Analysis of the Attitude-Behavior Relation. *Psychological Bulletin*, 132(5), 778–822. <https://doi.org/10.1037/0033-2909.132.5.778>

- Gleim, M. R., Smith, J. S., Andrews, D., & Cronin Jr., J. J. (2013). Against the Green: A Multi-method Examination of the Barriers to Green Consumption. *Journal of Retailing*, 89(1), 44–61. <https://doi.org/10.1016/j.jretai.2012.10.001>
- Gupta, S., & Ogden, D. T. (2009). To buy or not to buy? A social dilemma perspective on green buying. *Journal of Consumer Marketing*, 26(6), 376–391. <https://doi.org/10.1108/07363760910988201>
- Ha, H.-Y., & Janda, S. (2012). Predicting consumer intentions to purchase energy-efficient products. *Journal of Consumer Marketing*, 29(7), 461–469. <https://doi.org/10.1108/07363761211274974>
- Hansen, U., & Schrader, U. (1997). A Modern Model of Consumption for a Sustainable Society. *Journal of Consumer Policy*, 20(4), 443–468. <https://doi.org/10.1023/A%3A1006842517219>
- Hanss, D., & Böhm, G. (2012). Sustainability seen from the perspective of consumers. *International Journal of Consumer Studies*, 36(6), 678–687. <https://doi.org/10.1111/j.1470-6431.2011.01045.x>
- Harrison, M. P., Beatty, S. E., Reynolds, K. E., & Noble, S. M. (2012). Why Customers Feel Locked Into Relationships: Using Qualitative Research to Uncover The Lock-in Factors. *Journal of Marketing Theory and Practice*, 20(4), 391–406. <https://doi.org/10.2753/MTP1069-6679200403>
- Haubach, C., & Held, B. (2015). Ist ökologischer Konsum teurer? Ein warenkorbbasierter Vergleich. *Wirtschaft und Statistik*, 2015(1), 41–55.
- Haubach, C., & Moser, A. K. (2016). Nachhaltiger Konsum – Der Unterschied zwischen subjektiv und objektiv umweltfreundlichem Kaufverhalten. In W. Leal Filho (Ed.), *Theorie und Praxis der Nachhaltigkeit. Forschung für Nachhaltigkeit an deutschen Hochschulen* (pp. 297–311). Wiesbaden: Springer Fachmedien. https://doi.org/10.1007/978-3-658-10546-4_17
- Haubach, C., Moser, A. K., Schmidt, M., & Wehner, C. (2013). Die Lücke schließen - Konsumenten zwischen ökologischer Einstellung und nicht-ökologischem Verhalten. *Wirtschaftspsychologie*. (2/3), 43–57. Retrieved from http://www.wiso-net.de/webcgi?START=A60&DOKV_DB=ZECO&DOKV_NO=WPSY563B36B401B930AAAFBB124019CD9A92&DOKV_HS=0&PP=1

- Hauser, M., Nussbeck, F. W., & Jonas, K. (2013). The Impact of Food-Related Values on Food Purchase Behavior and the Mediating Role of Attitudes: A Swiss Study. *Psychology & Marketing, 30*(9), 765–778. <https://doi.org/10.1002/mar.20644>
- Hockerts, K., & Wüstenhagen, R. (2010). Greening Goliaths versus emerging Davids — Theorizing about the role of incumbents and new entrants in sustainable entrepreneurship. *Sustainable Development and Entrepreneurship, 25*(5), 481–492. <https://doi.org/10.1016/j.jbusvent.2009.07.005>
- Hoek, J., Roling, N., & Holdsworth, D. (2013). Ethical claims and labelling: An analysis of consumers' beliefs and choice behaviours. *Journal of Marketing Management, 29*(7-8), 772–792. <https://doi.org/10.1080/0267257X.2012.715430>
- Honkanen, P., Verplanken, B., & Olsen, S. O. (2006). Ethical values and motives driving organic food choice. *Journal of Consumer Behaviour, 5*(5), 420–430. <https://doi.org/10.1002/cb.190>
- Hoyer, W. D. (1984). An Examination of Consumer Decision Making for a Common Repeat Purchase Product. *Journal of Consumer Research, 11*(3), 822–829. <https://doi.org/10.1086/209017>
- Hughner, R. S., McDonagh, P., Prothero, A., Shultz, C. J., & Stanton, J. (2007). Who are organic food consumers? A compilation and review of why people purchase organic food. *Journal of Consumer Behaviour, 6*(2/3), 94–110. <https://doi.org/10.1002/cb.210>
- Im, S., Bayus, B. L., & Mason, C. H. (2003). An empirical study of innate consumer innovativeness, personal characteristics, and new-product adoption behavior. *Journal of the Academy of Marketing Science, 31*(1), 61–73. <https://doi.org/10.1177/0092070302238602>
- Ivanova, D., Stadler, K., Steen-Olsen, K., Wood, R., Vita, G., Tukker, A., & Hertwich, E. G. (2016). Environmental Impact Assessment of Household Consumption. *Journal of Industrial Ecology, 20*(3), 526–536. <https://doi.org/10.1111/jiec.12371>
- Janssen, M., & Hamm, U. (2012). Product labelling in the market for organic food: Consumer preferences and willingness-to-pay for different organic certification logos. *Food Quality and Preference, 25*(1), 9–22. <https://doi.org/10.1016/j.foodqual.2011.12.004>
- Jayawardhena, C., Morrell, K., & Stride, C. (2016). Ethical consumption behaviours in supermarket shoppers: determinants and marketing implications. *Journal of Marketing Management, 32*(7-8), 777–805. <https://doi.org/10.1080/0267257X.2015.1134627>

- Johnson, M. P., & Schaltegger, S. (2016). Two Decades of Sustainability Management Tools for SMEs: How Far Have We Come? *Journal of Small Business Management*, 54(2), 481–505. <https://doi.org/10.1111/jsbm.12154>
- Kim, H. Y., & Chung, J.-E. (2011). Consumer purchase intention for organic personal care products. *Journal of Consumer Marketing*, 28(1), 40–47. <https://doi.org/10.1108/07363761111101930>
- Kollmuss, A., & Agyeman, J. (2002). Mind the Gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research*, 8(3), 239–260. <https://doi.org/10.1080/13504620220145401>
- Leire, C., & Thidell, Å. (2005). Product-related environmental information to guide consumer purchases – a review and analysis of research on perceptions, understanding and use among Nordic consumers. *Journal of Cleaner Production*, 13(10–11), 1061–1070. <https://doi.org/10.1016/j.jclepro.2004.12.004>
- Leonidou, C. N., Katsikeas, C. S., & Morgan, N. A. (2013). “Greening” the marketing mix: do firms do it and does it pay off? *Journal of the Academy of Marketing Science*, 41(2), 151–170. <https://doi.org/10.1007/s11747-012-0317-2>
- Li, W.-Y., Chow, P.-S., Choi, T.-M., & Chan, H.-L. (2016). Supplier integration, green sustainability programs, and financial performance of fashion enterprises under global financial crisis. *Journal of Cleaner Production*, 135, 57–70. <https://doi.org/10.1016/j.jclepro.2016.06.048>
- Loorbach, D., & Wijsman, K. (2013). Business transition management: exploring a new role for business in sustainability transitions. *Journal of Cleaner Production*, 45, 20–28. <https://doi.org/10.1016/j.jclepro.2012.11.002>
- Lu, L.-C., Chang, H.-H., & Chang, A. (2015). Consumer Personality and Green Buying Intention: The Mediate Role of Consumer Ethical Beliefs. *Journal of Business Ethics*, 127(1), 205–219. <https://doi.org/10.1007/s10551-013-2024-4>
- Luchs, M. G., Naylor, R. W., Irwin, J. R., & Raghunathan, R. (2010). The Sustainability Liability: Potential Negative Effects of Ethicality on Product Preference. *Journal of Marketing*, 74(5), 18–31. <https://doi.org/10.1509/jmkg.74.5.18>
- Luo, X., & Bhattacharya, C. B. (2006). Corporate Social Responsibility, Customer Satisfaction, and Market Value. *Journal of Marketing*, 70(4), 1–18. <https://doi.org/10.1509/jmkg.70.4.1>

- Maignan, I., & Ferrell, O. C. (2001). Antecedents and benefits of corporate citizenship: an investigation of French businesses. *Journal of Business Research*, *51*(1), 37–51.
[https://doi.org/10.1016/S0148-2963\(99\)00042-9](https://doi.org/10.1016/S0148-2963(99)00042-9)
- Mainieri, T., Barnett, E. G., Valdero, T. R., Unipan, J. B., & Oskamp, S. (1997). Green Buying: The Influence of Environmental Concern on Consumer Behavior. *Journal of Social Psychology*, *137*(2), 189–204. <https://doi.org/10.1080/00224549709595430>
- McDonald, S., Oates, C. J., Young, C. W., & Hwang, K. (2006). Toward sustainable consumption: Researching voluntary simplifiers. *Psychology & Marketing*, *23*(6), 515–534.
<https://doi.org/10.1002/mar.20132>
- McMeekin, A., & Southerton, D. (2012). Sustainability transitions and final consumption: practices and socio-technical systems. *Technology Analysis & Strategic Management*, *24*(4), 345–361. <https://doi.org/10.1080/09537325.2012.663960>
- Menguc, B., & Ozanne, L. K. (2005). Challenges of the "green imperative": a natural resource-based approach to the environmental orientation--business performance relationship. *Journal of Business Research*, *58*(4), 430–438.
<https://doi.org/10.1016/j.jbusres.2003.09.002>
- Mickwitz, P., Hildén, M., Seppälä, J., & Melanen, M. (2011). Sustainability through system transformation: lessons from Finnish efforts. *Journal of Cleaner Production*, *19*(16), 1779–1787. <https://doi.org/10.1016/j.jclepro.2011.07.011>
- Moser, A. K. (2015a). The Attitude-Behavior Hypothesis and Green Purchasing Behavior: Empirical Evidence from German Milk Consumers. In T. Brown & V. Swaminathan (Eds.), *AMA Winter Marketing Educators' Conference: Vol. 26. Marketing in a Global, Digital and Connected World* (Vol. 26, C27-C28). Chicago, IL: AMA.
- Moser, A. K. (2015b). Thinking green, buying green? Drivers of pro-environmental purchasing behavior. *Journal of Consumer Marketing*, *32*(3), 167–175.
<https://doi.org/10.1108/JCM-10-2014-1179>
- Moser, A. K. (2016a). Consumers' Purchasing Decisions Regarding Environmentally Friendly Products: An Empirical Analysis of German Consumers. *Journal of Retailing and Consumer Services*, *31*, 389–397. <https://doi.org/10.1016/j.jretconser.2016.05.006>
- Moser, A. K. (2016b). Buying organic – decision-making heuristics and empirical evidence from Germany. *Journal of Consumer Marketing*, *33*(7), 552–561.
<https://doi.org/10.1108/JCM-04-2016-1790>

- Moser, A. K., & Naderer, G. (2016a). Deciphering Sustainable Consumption: Understanding Motives and Heuristic Cues in the Context of Personal Care Products: Poster presentation. In K. Knoeferle (Ed.), *EMAC 2016. Marketing in the age of data* (p. 162). Retrieved from <http://www.emac2016.org/pop.cfm?FuseAction=Doc&pAction=View&pDocumentId=679>
96
- Moser, A. K., & Naderer, G. (2016b). Deciphering Sustainable Consumption: Understanding Motives and Heuristic Cues in the Context of Personal Care Products. In B. Jaworski & N. Morgan (Eds.), *AMA Summer Educators' Conference Proceedings: Vol. 27. Regaining Relevance. Doing Research that Shapes the Practice of Marketing* (Vol. 26, H-12). Chicago, IL: AMA.
- Moser, A. K., Naderer, G., & Haubach, C. (2017). Mit qualitativen Insights aus der Nische zum Mainstream: Nachhaltiger Konsum von Körperpflegeprodukten. In W. Leal Filho (Ed.), *Theorie und Praxis der Nachhaltigkeit. Innovation in der Nachhaltigkeitsforschung* (23-38). Wiesbaden: Springer Fachmedien.
- Ngobo, P. V. (2011). What Drives Household Choice of Organic Products in Grocery Stores? *Journal of Retailing*, 87(1), 90–100. <https://doi.org/10.1016/j.jretai.2010.08.001>
- Ölander, F., & Thøgersen, J. (2014). Informing Versus Nudging in Environmental Policy. *Journal of Consumer Policy*, 37(3), 341–356. <https://doi.org/10.1007/s10603-014-9256-2>
- Olsen, M. C., Slotegraaf, R. J., & Chandukala, S. R. (2014). Green Claims and Message Frames: How Green New Products Change Brand Attitude. *Journal of Marketing*, 78(5), 119–137. <https://doi.org/10.1509/jm.13.0387>
- Olson, E. (2013). It's not easy being green: the effects of attribute tradeoffs on green product preference and choice. *Journal of the Academy of Marketing Science*, 41(2), 171–184. <https://doi.org/10.1007/s11747-012-0305-6>
- Otto Group. (2013). Lebensqualität: Konsumethik zwischen persönlichem Vorteil und sozialer Verantwortung: Trendstudie 2013. [Life quality: consumption ethics between personal benefit and social responsibility. Trend report 2013]. Retrieved from http://trendbuero.com/wp-content/uploads/2013/12/Trendbuero_Otto_Group_Trendstudie_2013.pdf
- Padel, S., & Foster, C. (2005). Exploring the gap between attitudes and behaviour. *British Food Journal*, 107(8), 606–625. <https://doi.org/10.1108/00070700510611002>
- Peattie, K. (2001). Golden goose or wild goose? The hunt for the green consumer. *Business Strategy and the Environment*, 10(4), 187–199. <https://doi.org/10.1002/bse.292>

- Peattie, K. (2010). Green Consumption: Behavior and Norms. *Annual Review of Environment and Resources*, 35, 195–228. <https://doi.org/10.1146/annurev-environ-032609-094328>
- Pedersen, E. R., & Neergaard, P. (2006). Caveat emptor – let the buyer beware! Environmental labelling and the limitations of ‘green’ consumerism. *Business Strategy and the Environment*, 15(1), 15–29. <https://doi.org/10.1002/bse.434>
- Pino, G., Peluso, A. M., & Guido, G. (2012). Determinants of Regular and Occasional Consumers' Intentions to Buy Organic Food. *Journal of Consumer Affairs*, 46(1), 157–169. <https://doi.org/10.1111/j.1745-6606.2012.01223.x>
- Rauschmayer, F., Bauler, T., & Schöpke, N. (2015). Towards a thick understanding of sustainability transitions — Linking transition management, capabilities and social practices. *Ecological Economics*, 109, 211–221. <https://doi.org/10.1016/j.ecolecon.2014.11.018>
- Reckwitz, A. (2002). Toward a Theory of Social Practices: A Development in Culturalist Theorizing. *European Journal of Social Theory*, 5(2), 243–263. <https://doi.org/10.1177/13684310222225432>
- Robeyns, I. (2005). The capability approach: a theoretical survey. *Journal of Human Development*, 6(1), 93–114. <https://doi.org/10.1080/146498805200034266>
- Rotmans, J., & Loorbach, D. (2009). Complexity and Transition Management. *Journal of Industrial Ecology*, 13(2), 184–196. <https://doi.org/10.1111/j.1530-9290.2009.00116.x>
- Schaltegger, S., Lüdeke-Freund, F., & Hansen, E. G. (2016). Business Models for Sustainability: A Co-Evolutionary Analysis of Sustainable Entrepreneurship, Innovation, and Transformation. *Organization & Environment*, 29(3), 264–289. <https://doi.org/10.1177/1086026616633272>
- Schrader, U., & Thøgersen, J. (2011). Putting Sustainable Consumption into Practice. *Journal of Consumer Policy*, 34(1), 3–8. <https://doi.org/10.1007/s10603-011-9154-9>
- Schram, A. (2005). Artificiality: The tension between internal and external validity in economic experiments. *Journal of Economic Methodology*, 12(2), 225–237. <https://doi.org/10.1080/13501780500086081>
- Schuitema, G., & Groot, J. I. M. (2015). Green consumerism: The influence of product attributes and values on purchasing intentions. *Journal of Consumer Behaviour*, 14(1), 57–69. <https://doi.org/10.1002/cb.1501>
- Schwartz, S. H., Vecchione, M., Fischer, R., Ramos, A., Demirutku, K., Dirilen-Gumus, O., . . . Konty, M. (2012). Refining the Theory of Basic Individual Values. *Journal of Personality & Social Psychology*, 103(4), 663–688. <https://doi.org/10.1037/a0029393>

- Sen, A. (1993). Capability and Well-Being. In M. Nussbaum & A. Sen (Eds.), *The Quality of Life* (30-53). Oxford: Clarendon Press.
- Shah, D., Kumar, V., & Kim, K. H. (2014). Managing Customer Profits: The Power of Habits. *Journal of Marketing Research*, *51*(6), 726–741. <https://doi.org/10.1509/jmr.13.0423>
- Shove, E., & Walker, G. (2010). Governing transitions in the sustainability of everyday life. *Research Policy*, *39*(4), 471–476. <https://doi.org/10.1016/j.respol.2010.01.019>
- Simon, H. A. (1955). A Behavioral Model of Rational Choice. *The Quarterly Journal of Economics*, *69*(1), 99–118. <https://doi.org/10.2307/1884852>
- Spaargaren, G. (2011). Theories of practices: Agency, technology, and culture: Exploring the relevance of practice theories for the governance of sustainable consumption practices in the new world-order. *Global Environmental Change*, *21*(3), 813–822. <https://doi.org/10.1016/j.gloenvcha.2011.03.010>
- Spillman, L. (2014). Mixed Methods and the Logic of Qualitative Inference. *Qualitative Sociology*, *37*(2), 189–205. <https://doi.org/10.1007/s11133-014-9273-0>
- Stern, P. C. (2000). Toward a Coherent Theory of Environmentally Significant Behavior. *Journal of Social Issues*, *56*(3), 407–424. <https://doi.org/10.1111/0022-4537.00175>
- Sun, B., & Morwitz, V. G. (2010). Stated intentions and purchase behavior: A unified model. *International Journal of Research in Marketing*, *27*(4), 356–366. <https://doi.org/10.1016/j.ijresmar.2010.06.001>
- Sunstein, C. (2014). Nudging: A Very Short Guide. *Journal of Consumer Policy*, *37*(4), 583–588. <https://doi.org/10.1007/s10603-014-9273-1>
- Szmigin, I., Carrigan, M., & McEachern, M. G. (2009). The conscious consumer: taking a flexible approach to ethical behaviour. *International Journal of Consumer Studies*, *33*(2), 224–231. <https://doi.org/10.1111/j.1470-6431.2009.00750.x>
- Tarkiainen, A., & Sundqvist, S. (2009). Product involvement in organic food consumption: Does ideology meet practice? *Psychology & Marketing*, *26*(9), 844–863. <https://doi.org/10.1002/mar.20302>
- Thøgersen, J. (2002). Direct experience and the strength of the personal norm–behavior relationship. *Psychology & Marketing*, *19*(10), 881–893. <https://doi.org/10.1002/mar.10042>
- Thøgersen, J., Haugaard, P., & Olesen, A. (2010). Consumer responses to ecolabels. *European Journal of Marketing*, *44*(11/12), 1787–1810. <https://doi.org/10.1108/03090561011079882>

- Thøgersen, J., Jørgensen, A.-K., & Sandager, S. (2012). Consumer Decision Making Regarding a “Green” Everyday Product. *Psychology & Marketing*, 29(4), 187–197. <https://doi.org/10.1002/mar.20514>
- Tobler, C., Visschers, V. H. M., & Siegrist, M. (2011). Organic Tomatoes Versus Canned Beans: How Do Consumers Assess the Environmental Friendliness of Vegetables? *Environment and Behavior*, 43(5), 591–611. <https://doi.org/10.1177/0013916510372865>
- United Nations. (2015). Transforming our world: the 2030 Agenda for Sustainable Development. A/RES/70/1.
- United Nations Environment Programme. (2005). Talk the Walk: Advancing Sustainable Lifestyles through Marketing and Communications. Retrieved from http://www.unglobalcompact.org/docs/news_events/8.1/ttw_fin.pdf
- Vega-Zamora, M., Torres-Ruiz, F. J., Murgado-Armenteros, E. M., & Parras-Rosa, M. (2014). Organic as a Heuristic Cue: What Spanish Consumers Mean by Organic Foods. *Psychology & Marketing*, 31(5), 349–359. <https://doi.org/10.1002/mar.20699>
- Vittersø, G., & Tangeland, T. (2015). The role of consumers in transitions towards sustainable food consumption. The case of organic food in Norway. *Journal of Cleaner Production*, 92(0), 91–99. <https://doi.org/10.1016/j.jclepro.2014.12.055>
- Wang, G., Dou, W., & Zhou, N. (2008). Consumption attitudes and adoption of new consumer products: a contingency approach. *European Journal of Marketing*, 42(1/2), 238–254. <https://doi.org/10.1108/03090560810840998>
- Weisenfeld, U. (2012). Corporate Social Responsibility in Innovation: Insights from two Cases of Syngenta's Activities in Genetically Modified Organisms. *Creativity and Innovation Management*, 21(2), 199–211. <https://doi.org/10.1111/j.1467-8691.2012.00643.x>
- Zhou, Y., Thøgersen, J., Ruan, Y., & Huang, G. (2013). The moderating role of human values in planned behavior: the case of Chinese consumers' intention to buy organic food. *Journal of Consumer Marketing*, 30(4), 335–344. <https://doi.org/10.1108/JCM-02-2013-0482>

ANNEX

ANNEX I – AUTHOR’S CONTRIBUTIONS ACCORDING TO §12 AND §16 OF THE GUIDELINE

Table 3: Contributions of the author to each single paper²

Pa- per #	Short title	Author Status ^a	Specific contributions of all authors ^b	Weighting factor ^c	Publication status ^d	Conference Contributions ^e
1	Thinking green	Single author	AKM: conception of research approach; literature review; data analysis and interpretation; writing	1.0	Published in Journal of Consumer Marketing (JCM) Double-blind peer review <i>Journal Ranking</i> GeMark: B VHB JQ3: C/D <i>Available article metrics</i> 4417 downloads 14 citations	EMAC Regional 2014
2	Consumers’ Purchasing Decisions	Single author	AKM: conception of research approach; literature review; data analysis and interpretation; writing	1.0	Published in Journal of Retailing and Consumer Services (JJRC) Double-blind peer review <i>Journal Ranking</i> GeMark: C Top 20 marketing journal VHB JQ3: C <i>Available article metrics</i> 2 citations	AMA Winter 2015

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² For footnotes and explanations, see Table 4

3	Buying organic	Single author	AKM: conception of research approach; literature review; data analysis and interpretation; writing	1.0	Published in Journal of Consumer Marketing (JCM) Double-blind peer review <i>Journal Ranking</i> GeMark: B VHB JQ3: C/D <i>Available article metrics</i> 438 downloads	
4	Quantitative and qualitative insights	Co-author with equal contribution	AKM: conception of research approach; literature review; data analysis and interpretation; writing GN: conception of research approach; data analysis and interpretation	1.0	Accepted at Journal of Marketing Management <i>Journal Ranking</i> GeMark: B Top 20 marketing journal VHB JQ3: C	AMA Summer 2016 EMAC 2016
5	Attitude-Behavior Hypothesis	Single author	AKM: conception of research approach; literature review; data analysis and interpretation; writing	1.0	Published in AMA Winter Educators' Conference Proceedings 2015 Double-blind peer review <i>Journal Ranking</i> VHB JQ3: D	AMA Winter 2015

6	Deciphering sustainable consumption	Co-author with equal contribution	AKM: conception of research approach; literature review; data analysis and interpretation; writing GN: conception of research approach; data analysis and interpretation	1.0	Published in EMAC Conference Programme 2016 Double-blind peer review <i>Journal Ranking</i> VHB JQ3: D	EMAC 2016
7	Deciphering sustainable consumption	Co-author with equal contribution	AKM: conception of research approach; literature review; data analysis and interpretation; writing GN: conception of research approach; data analysis and interpretation	1.0	Published in AMA Summer Educators' Conference Proceedings 2016 Double-blind peer review <i>Journal Ranking</i> VHB JQ3: D	AMA Summer 2016
<i>Sum</i>				7.0		

Declaration (according to §16 of the guideline)

I avouch that all information given in this appendix is true in each instance and overall.

^a Author Status	<p>according to §12b of the guideline: Single author [Allein-Autorenschaft] = Own contribution amounts to 100%. Co-author with predominant contribution [Überwiegender Anteil] = Own contribution is greater than the individual share of all other co-authors and is at least 35%. Co-author with equal contribution [Gleicher Anteil] = (1) own contribution is as high as the share of other co-authors, (2) no other co-author has a contribution higher than the own contribution, and (3) the own contribution is at least 25%. Co-author with important contribution [Wichtiger Anteil] = own contribution is at least 25%, but is insufficient to qualify as single authorship, predominant or equal contribution. Co-author with small contribution [Geringer Anteil] = own contribution is less than 20%.</p>
^b Specific contributions of all authors	<p>according to §12a of the guideline and in agreement with co-authors of a respective paper AKM: Andrea K. Moser GN: Gabriele Naderer</p>
^c Weighting Factor	<p>according to §14 of the guideline: Single author [Allein-Autorenschaft] 1.0 Co-author with predominant contribution [Überwiegender Anteil] 1.0 Co-author with equal contribution [Gleicher Anteil] 1.0 Co-author with important contribution [Wichtiger Anteil] 0.5 Co-author with small contribution [Geringer Anteil] 0</p>
^d Publication Status	<p>GeMark = German Marketing-Journal Ranking 2016, https://gemark-ranking.uni-hohenheim.de/ (20.01.2017)</p> <p>Top 20 Marketing Journal = ranked among the top 20 Marketing journals by Google Scholar Metrics, based on index as of June 2016 https://scholar.google.com/citations?view_op=top_venues&hl=en&vq=bus_marketing (20.01.2017)</p> <p>VHB JQ3 = VHB-JOURQUAL 3 2015, http://vhbonline.org/vhb4you/jourqual/vhb-jourqual-3/ (20.01.2017)</p> <p>Where available, download and citation metrics are provided based on publisher's information (20.01.2017)</p>
^e Conference Contributions	<p>AMA Summer 2016 2016 American Marketing Association Summer Educators' Conference: Regaining Relevance: Doing Research that Reshapes the Practice of Marketing, Atlanta, GA, USA, 05.-07.08.2016. https://www.ama.org/events-training/Conferences/Pages/2016-Summer-Academic-Conference-Call-For-Papers.aspx</p> <p>AMA Winter 2015 2015 American Marketing Association Winter Educators' Conference: Marketing in a Global, Digital and Connected World, San Antonio, TX, USA, 13.-15.02.2015. https://www.ama.org/events-training/Conferences/Pages/Winter-Marketing-Educators-Conference-2015.aspx</p> <p>EMAC 2016 45th EMAC Annual Conference 2016: Marketing in the Age of Data, Oslo, Norway, 24-27.05.2016. http://www.emac2016.org/</p> <p>EMAC Regional 2014 5th Regional Conference of the European Marketing Academy: Marketing Theory Challenges in Emerging Markets, Doctoral Colloquium, Katowice, Poland, 24.-26.09.2014. http://archive.emaregional2014.emac-online.org/www.emaregional.ue.katowice.pl/index.html</p> <p>All Papers were presented by AKM</p>

Table 4: Explanations to Table 3

