MSc Thesis

First Draft

Do priming and spillover effects given by the presence of a sustainable/organic brand affect consumers´ preference and choice?

An eye tracking study

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Summary

Increasing consumers´ interests in social and environmental qualities of the products may provide a potential for an incumbent brand to obtain competitive advantage and generate preference and choice share. This study aimed to investigate the impact of the introduction of a sustainable brand on consumers´ choice, and preference in the pasta category by revealing the mechanism of spillover effects on consumers´ attention and perception. Findings of this study suggest, that sustainable product performs better on social and environmental qualities, than in the undifferentiated situation. The presence of sustainable attribute positively spilled over the health evaluation of the sustainable product. Although overall attitude towards the sustainable product was not substantially higher, the presence of sustainable attribute provided the product with significant competitive advantage. While undifferentiated product was perceived as similar to competing products, sustainable product was perceived as better on social and environmental performance, as well as on the overall attitude. Negative spillover effect was, however identified on the level of overall attitude. Although our evidence is not very strong, price premium does not appear to be an important barrier to purchase organic products. Attention to the sustainable label was, however, found to be an important bottleneck in activation of associations with respect to sustainability qualities in the purchase situation, as only about 33%-38% of the consumers paid attention to the label when making their shopping decisions. When consumers realize, that the sustainable alternative is present, they pay more attention to the price of the product, and to the overall assortment, and they are more likely to choose and prefer the sustainable product. Despite the contribution of this study in revealing the effects of the introduction of a sustainable alternative on the target product, the impact of this action on conventional products, especially, the representation of the spillover effects in consumers´ attention to the assortment shall be investigated further. Results of this study provide several important implications for researchers, producers, and policy makers.

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Introduction

In the past two decades, consumers increasingly express concerns about environmental and social sustainability of the products they buy (Vermier and Verbeke, 2006). This brings potential for differentiation, to generate choice and preference share. This strategy might be especially successful in low-involvement product categories with high degree of commoditization, such as pasta (Di Monaco, et al. 2004). An incumbent brand might obtain comparative advantage by positive performance on social and environmental qualities, and increase costs for existing, mainly mainstream, brands, This may happen because (a) sustainable product becomes more attractive due to its sustainable qualities, (b) sustainable product become more attractive due to the occurrence of positive inferences with respect to other properties of the product (Marian, 2014), and (c) existing brands become less attractive (Anangnostou, et al., 2015). The overview of the processes with respect to organic (green) and mainstream (grey) products is depicted in Figure 1. The last two points refer to the situation, when the sustainable information goes beyond its intended purpose, and affects other unrelated concepts, which is recognized in the current literature as sillover effect (Ahluwalia, et al., 2001). These spillover effects occurs as the presence of sustainable alternative activates the sustainability concept in consumers working memory (priming effect), and spreads towards other unrelated concepts (attributes/overall attitudes) (Ahluwalia, et al., 2001; Anangnostou, et al., 2015). The impact of this phenomenon on consumers decision making is, however, still largely unexplained (Anangnostou, et al., 2015).

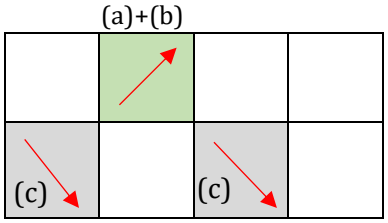

Figure 1: Summary of effects given by the presence of a sustainable brand

Spillover effects are reflected in consumers attitudes, hence the impact of spillover effects given by the introduction of a sustainable brand on consumers´ decision making, can be assessed through the approaches to attitudes. Current literature on attitudes distinguishes between explicit and implicit attitudes (Gawronski & Bodenhausen, 2006). While explicit attitudes refer to the rational evaluation of product attributes, implicit attitudes are rather spontaneous evaluation based on few available cues, which are retrieved from the environment (Gawronski & Bodenhausen, 2006). Both of these attitudes might be expressed by the general Fishbein´s (1974) formula of attitude; $A = \sum_i^n B_i \, e_i$, wherein B_i refers to the evaluation of product

attributes for an explicit attitude, and attention to the product cues for an implicit attitude, and e_i represents the importance of an attribute/cue in the formation of a given attitude type. The definition of the spillover effects implies a change in explicit attitude formation, as sustainable attribute (B_S) represents additional evaluative dimension ($A = \sum_i^n B_i\, e_i + B_S e_s$) (Anangnostou, et al., 2015). The representation of this spillover effect in implicit attitude formation must, however, be assessed in terms of attention to the sustainable cue, and detection that this cue is missing on other products in the assortment. While explicit attitudes are rather reflected in consumers´ brand preferences (Bass, et al., 1972a), implicit attitudes serve as a basis for consumers´ choice decisions (Gawronski & Bodenhausen, 2006). Explicit attitudes and preferences can be assessed by the self-reported measures (Ajzen & Fishben, 1975). This technique, however activates concept of sustainability in consumers mind set, and hence primes the concept in consumers´ reactions. Therefore, consumers´ choices are to a larger extent explained by implicit attitudes. Although implicit attitudes cannot be accurately reported, if an information was used in implicit attitude, and eventually choice, can be assessed through attention to a specific cue. To properly understand the impact of the introduction of a sustainable label on consumers' choices, it is necessary to assess the attention consumers pay to the product cues in the assortment (Bialkova & van Trijp, 2011). In recent years, researchers investigating consumers' attention with respect to choice increasingly rely on eye tracking method (Bialkova & van Trijp, 2011; van Herpen, & van Trijp, 2011).

The aim of this paper, is therefore, *„to investigate the impact of the introduction of a sustainable brand on consumers´ choice, and preference share for the product by investigating the underlying mechanism behind the phenomena of priming and spillover effects in the context of the attitude formation, and assessing to what extent these effects are activated in consumers´ attention to the assortment in the purchase situation".* With respect to this aim, the general research question was formulated as follows;

GRQ: "*How can the underlying mechanism behind priming and spillover effects, given by the presence of a sustainable brand in the product category, be reflected in consumers´ attitude formation, and to what extent these processes affect consumers´ choices and preferences for the sustainable brand?*"

Specific research questions were formulated as follows;

SRQ 1: *How can existing models on attitudes and comparative judgment be combined into more understandable framework to assess the effect of an introduction of a new product attribute in the product category on consumers decision making?*

SRQ 2: *To what extent are the priming and spillover effects given by the introduction of the sustainable brand represented in rational product evaluation?*

SRQ 3: *To what extent are the priming and spillover effects given by the introduction of the sustainable brand represented in attention to the product and overall assortment in the purchase situation?*

SRQ 4: *To what extent can these effects generate choice and preference for the organic product?*

Results of this study might provide some valuable insights on the effect of introduction of a sustainable alternative in the product category on consumers´ decision making. This might be of a crucial importance for producers and policy makers. By building a new theoretical framework, this study might extend the current knowledge on spillover effects, attitudes, and decision making with respect to the organic products. Better understanding of consumers´ perception of organic product, might contribute to its further spreading towards mainstream reatilers

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Background Information

In the past two decades, increasing consumer interests in social and environmental sustainability, have opened new market opportunities for producers and retailers to compete in highly commoditized markets (Anangnostou, et al., 2015; Vermier & Verbeke, 2006, Shepherd, et al., 2005). Concerns about product origin, animal welfare, living standards of farmers in developing countries, and similar product qualities, are spreading also towards mainstream consumers (Shepherd, et al., 2005). Sustainable food, such as organic products, have, therefore, recently started to spread from specialized stores right to the shelfves of the mainstream supermarkets (Anangnostou, et al., 2015; Henryks, et al., 2014, Chen & Lobo, 2012).

Differentiation through sustainability might provide an opportunity for an incumbent brand to obtain comparative advantage, especially when entering the low-involvement product categories with high degree of commoditization. This is because, first, in commoditized product categories, perceived differences between the performances of the products on existing products attributes are minimal (Reimann et al., 2008, Roland Berger Study, 2014), and hence adding sustainable attribute can make a difference. Second, in low involvement product categories, consumers make fast, spontaneous decisions based on few available information (Bauer, et al., 2006), and sustainability can add a fast differentiator against its competitors. An example of such category can be pasta, which is a processed, low-involvement product, consumed by the consumers at the daily basis. Pasta market is characterized by maturity and by elevated competitiveness (Di Monaco, et al., 2004). Due to its low price positioning, any changes in price have minor effects on purchases in comparison to categories selling at higher average prices (Cavallo, et al., 2014). Introducing a sustainable brand such as organic, in the pasta category might therefore increase product attractiveness, and generate preference and choice for the product.

Benefits of organic products

In the first place, organic attribute provides benefits given by its social and environmental qualities. The attribute organic refers to the food production based on sustainable agricultural production practices (USDA, 2016), which sustains the health of soils, ecosystems, and people (IFOAM, 2016). Organic productions involve methods that preserve the environment and avoid most synthetic materials, such as pesticides and antibiotics (USDA, 2016). These social and environmental qualities define the public-use value of organic products, which determines altruistic motivators for purchase (Marian, 2014; Shepherd, et al., 2005). Public-use value refers to the benefits, which are spatially or temporally further away, implying that they rather concern broader benefits for the society (Grunert, et al., 2004). In the public-value perspective

consumers perceive organic products as better for the environment and better in treatment of animals (Marian, 2014; Blair, 2012). Although organic attribute represents a specific way of production, in practice consumers often associate organic products with benefits, which go far beyond this definition, such as nutritional, food safety, and health aspects (Fernqvist & Ekelund, 2014, Marian, 2014; Paul & Rana, 2012; Henryks, et al., 2014). Organic products are perceived as safer, more nutritious, healthier, taster and fresher, than food produced on a large scale (Blair, 2012; Marian, 2014). These benefits provide private-use value of organic products to consumers, defining the egoistic purchase motivators, or how a consumer himself/herself can benefit from the consumption of these products (Marian, 2014, Shepherd, et al., 2005).

Even though consumers generally express positive attitudes towards organic products, and they are well aware of direct and indirect benefits of these products, organic is still a niche segment and most of the consumers buy organic products irregularly (Marian, 2014). The sales of organic products are steadily increasing (by 6% in 2013), however the overall market share of organic products in the Netherlands remains low (3.9% in 2012) (Fresh Plaza, 2014). Many researchers tried to solve this ambiguity between consumers´ attitudes and actions by identifying factors that might restrain the purchase of organic products. Price premium was identified as the biggest barrier to purchase organic (Marian, 2014, Paul & Rana, 2012, Henryks, et al., 2014, Shepherd, et al., 2005, Grunert, et al., 2004). Other constrains include availability (Paul & Rana, 2012, Henryks, et al., 2014), habits, false assumptions, visibility (Henryks, et al., 2014), consumers' satisfaction with the conventional food products, convenience (Shepherd, et al., 2005), insufficient marketing effort, and sensory defects (Marian, 2014). Organic is, moreover, a credence attribute, meaning that its qualities cannot be verified even after the consumption (Grunert, et al., 2004). Hence, it requires trust and confidence not only in the primary producer, but also in the third party certification bodies (Grunert, et al., 2004; Marian, 2014).

Notwithstanding the barriers to purchase organic, some specific sectors have shown faster dynamics than others. For example, the consumption of coffee that contained some form of sustainable label (Fair Trade Max Havellaar, UTZ, or Rainforest Alliance) reached 45% in 2010[1] (Ingenbleek & Reinders 2013). The rapid spreading of sustainable labels within these specific sectors drove interests of current researchers to understand what is behind this phenomenon (Binnekamp & Ingenbleek, 2008; Ingenbleek & Reinders 2013; Anangnostou, et al., 2015). Their results show, that the introduction of a sustainable label by one brand, motivates brands previously selling mainstream coffee, to adopt sustainable labels as well (Ingenbleek & Reinders, 2013). This happens, because they fear that the presence of sustainable alternative might trigger consumers to question the legitimacy of the brands that lack certification (Ingenbleek &

[1] Share of certified coffee was projected to 75% by 2015 (Ingenbleek and Reinders 2013)

Reinders, 2013). Although previous research shows, that these fears hold little ground (Binnekamp & Ingenbleek, 2008), the latest study on this topic (Anangnostou, et al., 2015) found supporting evidence. The introduction of an Organic/Fair Trade brand in the coffee sector changed consumers´ quality perception of mainstream brands in the negative direction (Anangnostou, et al., 2015). This implies, that in some specific sectors, sustainable properties may not only directly and/or indirectly increase perception of the target product, but simultaneously decrease the perception of other, mainly mainstream brands. In other words, the information about organic qualities of the product goes beyond its intended purpose, and influences beliefs that are not directly addressed in the message. Current literature recognizes this phenomenon as spillover effects (Ahluwalia, et al., 2001; Roehm & Tybout, 2006). Because spillover effects are said to explain more variance in attitude change than the message directly addressed in the communication (Ahluwalia, et al., 2001), they might be a key driver in increasing purchase of organic products in these specific sectors (e.g. coffee). Investigating the impact of a differentiation through organic attribute in the pasta category on consumer decision making from the perspective of spillover effects to competing products might therefore provide some valuable insights on the topic.

Spillover effects

Spillover effects can be defined as the extent to which information provided in the marketing message changes beliefs about attribute(s)/product(s) that are not directly addressed by the message (Ahluwalia, et al., 2001). Spillovers can operate in both, positive and negative directions. Negatively valenced spillovers are especially likely to occur (Ahluwalia, et al., 2001; Ahluwalia, et al., 2000). Positive spillover effects may, for example, occur from one product attribute, to another product attribute of the same brand (Ahluwalia, et al., 2001), or to the perception of other brands in the assortment (Balachander & Ghose, 2003; Simonin & Ruth, 1998). Current research on negative spillover effects is particularly directed towards spillovers originated by the crisis or product scandal, which can negatively spillover from a product to scandalized brands themselves (Ahluwalia, et al., 2000; Dawar & Pillutla, 2000), from a brand to a competitor (another brands), and/or to the whole category (Roehm & Tybout, 2006). Recently, negative spillover effect were detected between an introduction of an attribute (social and environmental performance) of one product to social and environmental performance/overall perception of other brands (Anangnostou, et al., 2015).

The theoretical framework explaining the existence and extent of spillover effects builds upon the three main pillars; Associative Network theory (Anderson, 1983; Wang, 2011), Missing Information approach (e.g., Kardes, et al., 2004; Broniaczyk & Alba, 1994), and Accessibility-Diagnosticity framework (e.g., Herr, et al., 1991, Dick, et al., 1990).

Associative Network theory poses that the knowledge stored in consumers' brain is organized in networks of cognitive units which encode facts (Anderson, 1983). Each cognitive unit consists of a node and a set of associative elements, which are mutually interconnected in networks based on what consumers already know (Anderson, 1983). As one node is activated by some external stimuli, such activation spreads to other related nodes through pre-existing links, and strengthens the associations with the primed elements, which is recognized as "spillover effect" (Wang, 2011). The activation of a specific node (e.g. sustainability) due to the exposure to a stimulus (e.g. sustainable label), defined as stimulus priming (Loersch & Payne, 2011), therefore precedes the spillover of any kind. First, the prime (e.g. the presence of sustainable label) makes the concept of sustainability accessible in consumers´ memory, which is recognized as stimulus priming (Loersch & Payen, 2011). This activates accessible information in consumers´ memory (e.g. the product is sustainable, sustainability is important), which may affect judgment of the focal target, defined as construal priming (e.g. the product is sustainable, hence better) (Loersch & Payen, 2011). Conceptual priming, can thereafter spread to other unrelated nodes such as that product attributes (e.g. sustainable product is safer, and healthier) (Marian, 2014; Ahluwalia, et al., 2001), or other products (e.g. other products are not sustainable) through pre-existing links (Anderson, 1983; Anagnostou, et al., 2015). Hence in order to understand spillover effects to other products/product attributes, first the direct effects caused by the priming of the sustainability into information processes of the product to which the treatment is implemented must be assessed.

Missing Information approach centres on situations when an important attribute is missing for one product, but not for others (Kardes, et al., 2004). In such situations consumers' face uncertainty about the value of the missing information and they have to draw inferences to derive it from the product itself or from other products in the category (Dick et al., 1990; Kardes, et al., 2004). When consumers evaluate a mainstream product in the absence of the sustainable brand in the product category, the concept of sustainability is not relevant for the category evaluation, because there is no information on sustainability provided in the whole category (Anagnostou, et al., 2015). Differently, in the presence of a sustainable brand, products are described in different amount of information; as one product possess the sustainable label, implying that the product is sustainable, information about "sustainability" for other products is missing. Consumers may therefore evaluate mainstream products against the sustainable brand (e.g. mainstream products are not sustainable, hence worse) (Anagnostou, et al., 2015).

The Accessibility-Diagnosticity framework identifies key factors that modify spillovers. While accessibility of information determines to what extent a piece of information is accessible from memory, diagnosticity refers to the perceived relevance/usefulness of such information in the

judgment (Dick, et al., 1990; Herr, et al., 1991). Sustainability might therefore be used for a given judgment, and initiate the spillover effects, if it is accessible in consumers memory, and considered to be relevant for a given judgment.

Spillover effects usually imply a changes in overall attitude or lower-level concepts (such as product attribute evaluation), which lead to the formation of an overall evaluation (e.g.: Anagnostou, et al., 2015; Ahluwalia, et al., 2001). This suggest, that spillovers are a result of the same mental processes as attitudes. Although, the impact of spillover effects on consumers' decision making is still largely unclear (Anangnostou, et al., 2015), there are theories proposing how attitudes may affect consumers decision making (e.g. Ajzen & Fishbein 1974; Gawronski & Bodenhausen, 2006). Therefore, understanding of this phenomena in the context of attitude formation processes might enable to reveal the effect of spillovers, caused by the introduction of a sustainable brand on consumers' choices and preferences.

Attitude formation

Attitude is defined as a psychological tendency to evaluate a given entity with some degree of favour or disfavour (Gawronski & Bodenhausen, 2006). Two main approaches to the attitude formation can be distinguished in existing literature; multi-attribute attitude models (e.g.: Fishbein & Ajzen, 1975; Lutz & Bettman, 1977), and dual-processes approaches (e.g.: Gawronski & Bodenhausen, 2006; Petty & Cacioppo, 1983). Multi-attribute attitude approach is in line with understanding of a product as a bundle of attributes (Pickton & Masterson, 2010). This approach defines attitude formation as a process which occurs in three stages. Consumers first form beliefs about numerous attributes (characteristics) of the product, then they appraise how important these attributes are to them (Fishbein &Ajzen, 1975). Finally, previous steps are integrated into overall attitude by the integration rule; $A_o = \sum_i^n B_i\, e_i$, where attitude towards an object (A_o) equals the sum of product attributes´ (i) evaluations (e_i) multiplied by beliefs regarding the extent to which a product possesses certain attribute (B_i), or respectively perceived performance of an object, on a given number of attributes involved (n) (Ajzen & Fishbein, 1980). Multi-attribute attitude approach assumes that evaluative judgment is always a result of rational, conscious, and deep processing of all the product information. Dual approaches to attitudes, however, suggest that an attitude can be activated automatically, outside consumers´ awareness (e.g. Doob, 1947; Chaiken, 1980; Petty & Cacioppo, 1983).

According to the dual-process theories of cognitive functioning there are two types of mental processes, which can be used to form an evaluative judgment (e.g. Schneider & Shiffrin, 1977; Chaiken, 1980; Petty & Cacioppo, 1983; Shiv & Fedorikhin, 1999; Greenwald & Banaji, 1995). Correspondingly, two types of attitudes can be distinguished; implicit and explicit attitudes (e.g.:

Greenwald & Banaji, 1995; Gawronski & Bodenhause, 2006). Explicit attitude is defined as an evaluative judgment which is based on syllogistic inferences, which are derived from propositional information, considered to be relevant for a given judgment (Gawronski & Bodenhause, 2006). This type of attitude corresponds to the conscious, controlled, deep information processing as described by the multi-attribute attitude models, therefore, explicit attitudes can be justified and reported by a consumer (e.g. Fishbein & Ajzen, 1975). Differently, implicit attitude refers to the automatic affective reaction, resulting from specific associations which are activated when a relevant stimulus is encountered (Gawronski & Bodenhausen, 2006). The APE model suggests, that in most of the cases consumers use implicit attitudes as a basis for their decision making (Gawronski & Bodenhausen, 2006). This happens, because associative processes leading to the formation of an implicit attitude, are activated automatically, when one encounters a relevant stimulus (Gawronski & Bodenhausen, 2006). If the propositional implication of an automatic affective reaction is consistent with existing knowledge, it will most likely be used as a basis for an evaluative judgment (Gawronski & Bodenhausen, 2006). Explicit attitudes, are only used in case that an inconsistency with other existing propositions is detected during associative processes, which stimulates propositional reasoning (Gawronski & Bodenhausen, 2006).

While, the multi-attribute attitude approach enables to express complex attitudes in a simple mathematical formula, dual-process approaches, such as the APE model, identify the processes which lead to formation of two different attitude types. None of the two, however explains how processes, leading to the formation of abstract attitudes, are based in physical world. Therefore, a model of the quality perception process (Steenkamp, 1990) was used to fill this gap. The model of the quality perception process suggests, than in the shopping environment beliefs about product attributes, leading to the formation of final attitude, are formed by the conscious and/or unconscious processing of informational cues (Steenkamp, 1990). These informational cues are, in fact, physical properties of the product (Steenkamp, 1990). Roughly two kinds of cues, can be distinguished; intrinsic cues (such as colour, size, smell, shape, etc.), representing physical components of the product, and extrinsic quality cues (such as brand name, price, country of origin, etc.), which are related to the product, but they are not a physically part of it (Olson & Jacoby, 1972; Steenkamp, 1990). Because product cues are present in the environment in large quantities, only few of them are acquired and further processed (Steenkamp, 1990). Acquired information first undergo a process of categorization, or assignment of categories of meaning for the consumer (Steenkamp, 1990). In other words, new information given by the cue is interpreted with respect to the existing knowledge (Steenkamp, 1990). Consequently, beliefs about product attributes are formed, and integrated into overall judgment (Steenkamp, 1990).

The importance of an attribute in overall judgment have been extensively discussed in existing literature (e.g. Ajzen & Fishbein, 197; Brunsø, et al., 2002; Steenkamp, 1990). Van Ittersum, et al., (2002) propose the most reasonable approach to tackle the complexity of the problem. Attribute importance is a concept consisiting of three dimensions; salience, relevance, and determinance. Salience reflects the degree of ease with which attributes are recognized or come to mind when consumers see the product, or think about it. Relevance reflects the individual importance of and attribute, given by the values and desires of a consumer. Attribute determinance refers to the importance of an attribute in judgment or choice (van Ittersum, et al., 2002).

Theories on attitude formation provide several important implications for the understanding of spillover effects. Spillover effects in their nature require processing of the direct information, to activate indirect links (Anderson, 1983).Therefore, it can be assumed, that they are a result of a considerable rational information processing. Accordingly, the way spillover effects are measured in existing literature is in line with the multi-attribute attitude approach (attribute evaluation in self-reported measures) (e.g. Ahluwalia, et al., 2001; Anagnostou, et al., 2015). This suggest, that spillover effects rather occur at the level of explicit attitudes. However, if these effects are somehow present in consumers' automatic affective reactions is less clear, as implicit attitudes cannot be accurately reported by the consumer (Gawronski & Bodenhausen, 2006). In the real purchase situation, attitudes as well as spillover effects need to be activated by some external stimuli, which refer to the physical features of the product (Anderson, 1983, Steenkamp, 1990). Hence if the presence of an attribute is to activate associative processes leading to some spillover/attitude effects in implicit attitudes, first information about a specific attribute must be retrieved from the product itself (Steenkamp, 1990).

Attitude formation in the comparative context

Spillover effects may occur between a product, to which the message is implemented, and other products in the assortment (Ahluwalia, et al., 2001; Balachander & Ghose, 2003). Similarly, consumers' evaluative judgment is comparative in nature (Mussweiler, 2003). In real purchase situation, attitudes are always formed with respect to other products within the assortment (Mussweiler, 2003). Inference processes, which can be made within comparative judgment, can be classified into four types; memory-based induction, memory based deduction stimulus-based induction, and stimulus based deduction (Kardes, et al., 2004). Memory-based induction describes situation, when an important attribute is missing as described earlier (Kardes, et al., 2004; Dick et al., 1990). Memory-based deduction suggest that if a new product is introduced, consumers' inferences can be either based on the category to which the product belongs, or attribute by attribute comparison (so called piecemeal processing) (Kardes, et al., 2004). Piecemeal processing, also referred as attribute-based processing, consist of product evaluation

on attribute-by-attribute basis, considering isolated pieces of information (for example attitude formation as defined by Fishbein and Ajzen's (1975) (Kardes, et al., 2004). Which of the two processes will occur is determined by category membership or the match between target product's attribute and the category, involvement, and consumers' expertise (Kardes, et al., 2004). Stimulus-based induction assumes that consumers' product evaluation changes with respect to which standards they compare it to (Kardes, et al., 2004). Comparative judgment starts with a quick holistic assessment, leading to the standard selection (Mussweiler, 2003). Standard selection follows with determination of the product features to base the comparison on, and finally evaluation is carried out (Mussweiler, 2003). This can result in either assimilation (products are perceived as similar) or contrast (products are perceived as different) of the target and standard (Mussweiler, 2003). Stimulus-based deduction is based upon the syllogistic inferences. If product A is better, that product B, and B is better than product C, than transitivity implies that product A must be better than product C (Kardes, et al., 2004).

The Role of Attitudes in Decision Making

Consumer´ decision making can be understood in terms of consumers´ choices and preferences for products. Most of the food choices are made at the point of purchase (Steenkamp, 1990). This often happens without too much inspection of product alternatives and it is based on limited information processing (Bialkova et al., 2014). Consumers' choices are a result of the process consisting of four stages; exposure, attention, perception, and decision (choice) (e.g. Bialkova & van Trijp, 2011). Exposure is a necessary, but not sufficient condition for attention and further information processing (Bialkova & van Trijp, 2011). In order for an information to be properly detected, identified, organized and made sense of, first attention must be paid to it (Bialkova et al., 2014; Bialkova & van Trijp, 2011). Unattended information cannot affect choices consumers make in the real purchase situation, simply because it is not processed. Therefore, the lack of attention to a specific cue to attribute represents an important bottleneck in further information processing (Bialkova & van Trijp, 2011; Bialkova, et al., 2014).

Consumers' attention to product stimuli is selective, and it is driven by bottom-up (given by the stimulus) and top-down (given by the consumer) processes. (Bialkova & van Trijp, 2011). Once information is attended, perceptual process can begin. First, categories of meaning must be assigned through the process of categorization (Steenkamp, 1990; van Trijp & Bialkova, 2011,). In other words, consumers must make sense of the information they just acquired. When prior beliefs (existing propositions) are met, categorization can be carried out quickly, without much cognitive effort (Steenkamp, 1990). In this case, consumers would use their automatic evaluation as a basis for their choices (Gawronski & Bodenhausen, 2006). In case, that prior beliefs are not met, automatic evaluation become insufficient to make a decision, and consumers

will try to solve the ambiguity by employing the rational reasoning (Gawronski & Bodenhausen, 2006). Put differently, consumers product choices are results of one of the two scenarios; (1) activation of automatic evaluation, which, if not questioned, will directly lead to choice, or (2) activation of automatic evaluation resulting in dissonance with propositions existing in consumers' memory, which activates rational reasoning, or rational evaluation, which will then lead to choice.

Differently, consumers' preferences are formed and expressed only after and only as a result of considerable prior cognitive processing (Zajonc, 1980). Broadly defined, preference making is the action of selecting one option over other(s) (psychology dictionary, 2016). In the narrow definition, current research makes a distinction between expressed preference and underlying preference (Warren, et al., 2011). While expressed preference refers to understanding of the preference by economics and behavioural decisionists, underlying preference rather captures psychological point of view (Warren, et al., 2011). From economical perspective, preferences are defined as the subjective tastes, as measured by utility of various bundles of goods (Veres, et al., 2014; Warren, et al., 2011). This approach permits the consumer to rank the bundles of goods according to the levels of utility they provide to the person (Veres, et al., 2014). By this definition, a preference for option A over options B and C means that either a consumer selects A over B or C, based on perceived utility (Warren, et al., 2011). In line with that, behavioural decision theorists suggest that consumers choose (are willing to pay for) products based on their preference for (utility of) specific product features (Warren, et al., 2011). Underlying preference refers to a latent tendency to consider something desirable, or undesirable (Warren, et al., 2011; Bass & Talarzyk, 1972). By this definition, preferences are rather understood as attitudes and are typically measured through scale ratings or response latency measure (Warren, et al., 2011, Bass & Talarzyk, 1972).

The definition of expressed preference is based on the same principle as the equation of rational evaluative judgment as the evaluations of an attribute multiplied by its importance is, in fact, perceived utility of an attribute. When people are asked for their preferences (for example pick the three most preferred options, or rank the products based on your preference) the propositional reasoning is always activated, because consumers have to think about why to place product A as better that product B and C, or why one product is more desirable than others. This suggests, that consumers rather use their rational attitudes to form their preferences. Differently, consumers' choices are rather determined by the automatic attitudes. We therefor emphasize, that since preferences and choices are result of different kind of information processing, they should be approached from a different way. To understand how consumers make their preferences, it is important to understand the rational propositions

consumers make (Zajonc, 1980), hence investigate the perception of product attributes (Warren, et al., 2011, Bass & Talarzyk, 1972). However, to evaluate the impact of these attributes on choice, it is necessary to study the attention which is dedicated to the cues signalizing the presence and performance of a particular product attribute (Bialkova, et al., 2014; Bialkova & van Trijp, 2011). Latest approaches aiming to predict the decision outcome assume that where the eye goes, there the attention goes (Bialkova & van Trijp, 2011). Instead of directly asking the consumer, it is therefore better directly measure to which parts of the product (assortment) consumers look (Bialkova & van Trijp, 2011).

Attention and eye tracking

In the recent years, consumer behavior and marketing research increasingly apply the eye tracking methodology to evaluate consumers' attention (e.g. van Herpen et al., 2015; Bialkova et al. (2014), Varela et al. (2014), Bialkova & van Trijp, 2011). Eye tracking is usually used to track parameters such as fixations and saccades, with the use of an infrared corneal reflection methodology, measuring the angle and distance of the reflection of infrared light from the centre of the pupil (Bialkova & van Trijp, 2011). While fixations describe the period during which the eye stays relatively still, saccades refer to eye movements. Fixations are characterized in terms of length of the fixation, referred as fixation duration, and number of fixations per second, defined as fixation frequency (Bialkova & van Trijp, 2011). Mean fixation duration range from 200 to 400 ms, however in practice minimum threshold value to define fixation is usually set up to 80 ms (Salvucci & Goldenberg, 2000). Saccades' mean duration typically ranges from 10 to 100 ms, with the average size of the saccade (measure of how far the eyes move) of 3–5° of visual angle. During the saccades, the vision is suppressed, hence new information is only retrieved during fixations (Bialkova & van Trijp, 2011). Eye fixations are argued to provide an accurate measure to assess consumers' attention, since attention determines where the eye goes (Bialkova & van Trijp, 2011). Fixations are analysed with respect to the Areas of interest (AOIs), which are defined by the researcher (Biallkova & van Trijp, 2011). Although information is not acquired during saccades, they are useful to reveal the visual search of the consumer (e.g.: trade-offs, order of AOIs seen, etc.) (Giesen et al., 2015).

Integration of the theories

Theories described in the previous sections were combined in a theoretical framework depicted in Figure 1. The "Conceptual model on attitude formation processes and their impact on choice and preference", proposed by this paper, shows how different attitude formation processes are activated with respect to the physical features of the product in the assortment, and it suggests how they might affect consumers´ decision making.

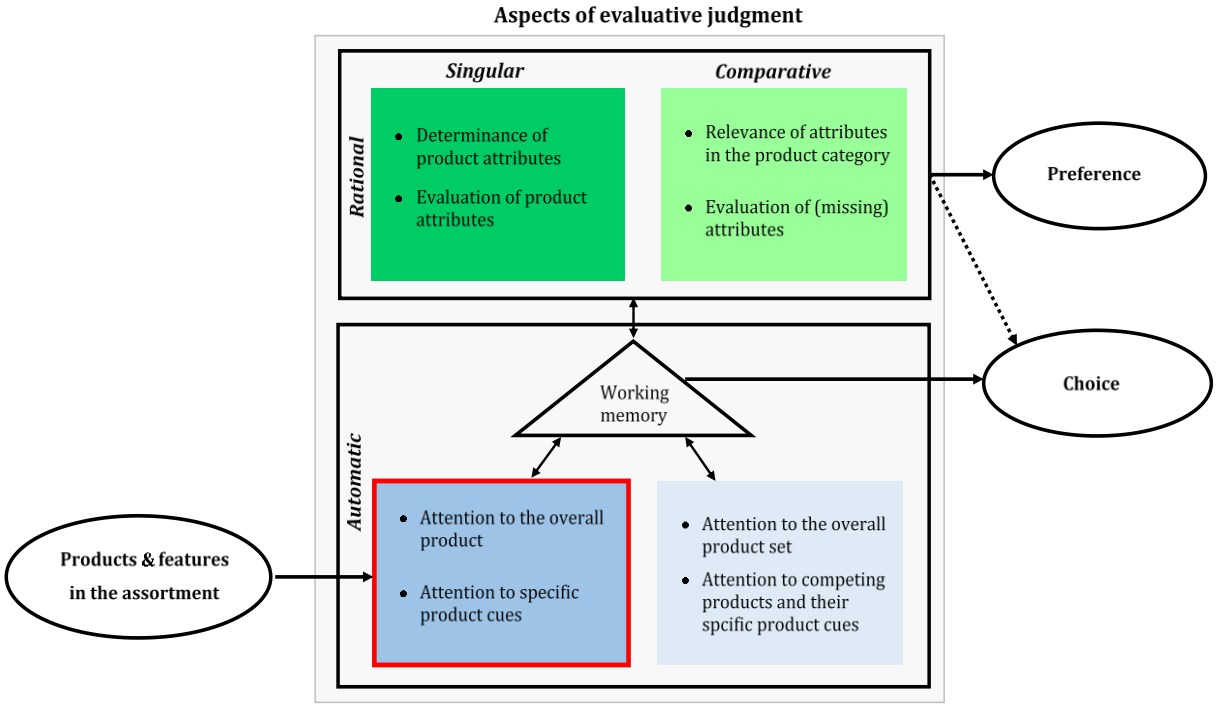


Figure 1: Conceptual model on attitude formation processes and their impact on choice and preference

Aspects of evaluative judgment

Current literature recognizes two main factors influencing processes behind the attitude formation/activation process. First, there are two types of mental processes (propositional vs associative), which are a basis for a formation/activation of attitudes (Gawronski & Bodenhausen, 2006). Second, consumers´ make different inferences when they judge a product in isolation, and in comparison to other products in the category (Kardes, et al., 2004). These theories can be combined into a 2x2 theoretical framework, based on type of the mental process involved (rational vs automatic), and judgment context (singular vs comparative). Consistently four aspects of evaluative judgements can be distinguished; Rational-singular, Rational-comparative, Automatic-singular, and Automatic comparative judgment.

Rational judgment capture the explicit attitude or, rational, complex processing of any proposition, relevant for a given judgment (Ajzen, 1974; Gawronski & Bodenhausen, 2006). Rational attitude a product can be expressed by the equation of the integration rule used in multi-attribute attitude models (Fishbein & Ajzen, 1975), $A = \sum_i^n B_i\, e_i$; a sum of evaluations of product attributes multiplied by their importance (determinance in attitude formation). The activation of a rational judgment requires existing propositions to be questioned (Gawronski & Bodenhausen, 2006). Hence the occurrence of this attitude type is conditioned by questioning,

either induced by the dissonance detected in automatic judgment formation (e.g. in the supermarket), or by direct question (e.g. in the questionnaire).

Rational comparative judgment could be expressed by the multi-attribute attitude equation $A_j = \sum_i^n B_{ij}\, e_{ij}$, where *j* could refer to any of the competing products in the assortment. In the rational comparative judgment context often happens, that not all the product attributes are taken into account (Kardes, et al., 2004; Fiske & Pavelchak, 1986). The comparative evaluation based on attribute-by-attribute comparison (multi-attribute attitude models) is unlikely, when a new product is explicitly labelled as belonging to the product category (Kardes, et al., 2004; Fiske & Pavelchak, 1986). In such instances, consumers' rather engage in categorical processing, referring to the inferences based on general categorical knowledge (Fiske & Pavelchak, 1986). The specific aspects of the categorical processing depends upon the relevance (i.e., how diagnostic the associations are) of product attributes (Broniarczyk & Alba, 1994). Rational comparative judgment may also change, when information about an important attribute is missing (Kardes, et al., 2004; Dick, et al., 1990).

Automatic singular evaluation is based on few product cues (Gawronski & Bodenhausen, 2006). This type of evaluation may occur unconsciously (Steenkamp, 1990; Gawronski & Bodenhausen, 2006), therefore it cannot be accurately reported by the consumer (Bass et al., 1972). Only the information, which is visually seen by the consumer can be eventually processed and have impact on an automatic evaluation of the product (Bialkova & van Trijp, 2011; Steenkamp, 1990). Therefore, which cue were processed in automatic attitude formation is given by the attention to the assortment, product, and product cues. When an information is acquired/attended it does not necessarily translate in consumers´ judgment and choice. This happens only if consumers can link this information to the previous knowledge (Steenkamp, 1990; Bialkova & van Trijp, 2011). This happens in the working memory, where information is decoded and provided meaning to (Bialkova & van Trijp, 2011). Working memory is in fact a place, where rational associations are connected to a product. Categorized information, may be further used in decision making. Automatic singular attitude can therefore be expressed by the equation $A_t = \sum_i^n B_i\, e_i$, where B_{it} = attention to the specific product cue, and e_i=salience of this cue in memory (diagnosticity) (Bilakova & van Trijp, 2011; van Ittersum, et al., 2006). Processes in the working memory may further affect both attention to the product and attention to the assortment.

Automatic comparative evaluation depends on which standard is used to compare the product to (Mussweiler, 2003). Shifts in perspective will result in shifts in judgment (Kardes, et al., 2004). Because standard selection is the key in determining on which product features the comparison will be carried upon (Mussweiler, 2003), this stage is extremely important. In situation, when an

important attribute is missing, the comparative context increased the salience of the missing information and this increase the likelihood of spontaneous inference formation (Sanbonmatsu, et al., 1997). Similarly to the singular-automatic judgment, also comparative-automatic judgment will be determined by the limited amount of acquired cues. Therefore, a comparative-automatic judgment will be driven by the attention to the overall product assortment, specific products offered within the assortment, and their specific product elements. Attention to the overall assortment should reveal which product was used as a comparison standard, and if the missing information was detected. The automatic comparative judgment could be expressed by the equation $A_j = \sum_i^n B_{ij}\, e_{ij}$, where attitude towards product *j* is given by the sum of *a*ttention to all the specific cues in the assortment (B_{ij}), multiplied by the salience of a cue in the memory (e_{ij}).

The impact of evaluative judgments on decision making

Preference making involves questioning, therefore processes occurring in the rational judgment should be activated and reflected in consumers´ preferences (Zajonc, 1980; Bass & Talarczyk, 1972). This is because when consumers make their choice decisions in the purchase situation, existing propositions are not directly questioned (Gawronski &Bodenhausen, 2006). When consumers make their decisions among unknown products, they can derive information about product qualities only based on the cues in the product assortment (Steenkamp, 1990). Only information given by the physical products, can eventually serve as a basis for an activation of the mental processes leading to the activation/formation of attitudes and behavioural outcome (Steenkamp, 1990, Gawronski & Bodenhausen, 2006). In the purchase situation, products are not perceived in isolation. Instead, they are being offered in the product assortment together with competing products (Mussweiler, 2003). Therefore, our conceptual model begins with the physical features of the product within the assortment. Only information which has been paid attention to can be processed in consumers´ automatic as well as rational evaluative judgment, and hence been reflected in consumers choice decisions at the point of purchase. Therefore, the extent to which rational linkages which consumers can make with respect to a certain cue, are activated in the purchase situation is given by the attention to that cue.

Hypotheses definition

The conceptual model on attitude formation processes and their impact on choice and preference, as described in the previous section, was further applied on the case of introduction of the sustainable brand to assess its impact on decision making. Adding sustainable alternative in the product category de facto implies, that to one of the brands in the assortment a sustainable (organic) attribute is implemented. We propose, that this act may affect consumers'

information processing and cause some direct effect, defined as priming (Loersch & Payen, 2011; Lorch, 1982; Sherman, et al., 1990), and some indirect effects, defined as spillovers (Anagnostou, et al., 2015). These effects can occur on the product to which the organic attribute is added (Marian, 2014; Ahluwalia, et al., 2001), and they can also affect evaluation of other products in the category (Anagnostou, et al., 2015). Both, direct and spillover effects require substantial cognitive information processing (propositional reasoning), hence we emphasize, that they occur at the level of rational evaluative judgment. However, the activation of a rational attitude in the purchase situation is conditioned by the automatic processes, which are a basis for an automatic (implicit) attitude (Gawronski & Bodenhausen, 2006). Automatic affective reactions are based on the attention to a few informational cues, retrieved at the POP (Steenkamp, 1990; Gawronski & Bodenhausen, 2006). Therefore the activation of priming and spillover effects in the purchase situations, must be originated by some attention effects. The priming, spillover, and attention effects which might occur in response to the addition of a sustainable alternative/attribute to the product category are further defined in a form of specific hypothesis. An overview of the effects which may occur as a result of adding sustainable attribute/alternative in the category is displayed in Figure 2. The impact of these effects on consumers' decision making is discussed at the end of this chapter.

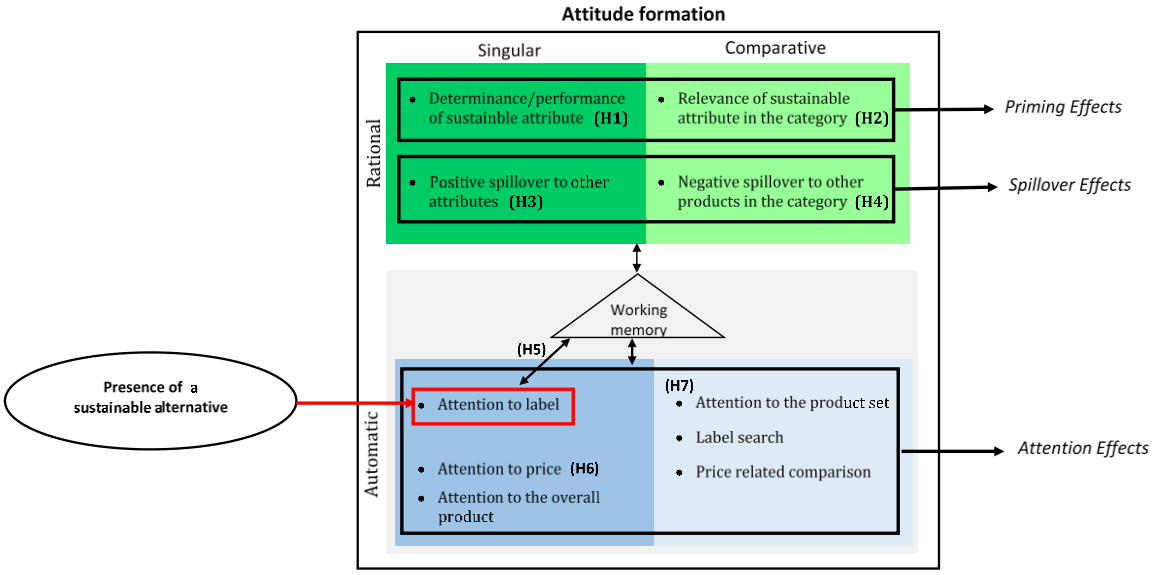


Figure 2: The effects of the presence of sustainable alternative on information processing

Priming effects

The presence of a sustainable label on a product represents a prime, which makes the sustainability construct accessible in consumers´ knowledge. The priming of sustainability might be observed through several direct effects in attitude formation towards the target product. In other words, consumers first have to realize that a product possess some sustainable qualities in

order to activate associations with other unrelated concepts or products. Earlier in this paper we proposed that the rational evaluation of a product in isolation can be approached by the equation $A_o = \sum_i^n B_i\, e_i$, defined by the multi-attribute attitude approach (Ajzen & Fishbein, 1980). Four universal dimensions can be distinguished in evaluation of food products; taste, health, process, and convenience (Grunert, et al., 2004, Brunsø, et al., 2002). Organic attribute pertains to the specific way of production, namely environmentally and socially sound production of the food (USDA, 2016; IFOAM, 2016). Organic attribute therefore represents a process (sustainability) attribute in terms of universal dimensions of food quality (Grunert, et al., 2004). Since pasta products, used in this study, do not differ in terms of convenience, this dimension was omitted in the attitude equation. Hence, overall attitude towards a pasta can be expressed as the sum of evaluations of taste, health, and process attributes multiplied by their importance; $A = T_i e_T + H_i e_H + P_i e_P$.

Conventional product does not claim any special qualities on process dimension, therefore the performance of an undifferentiated conventional product $(P_i e_P)$ on process attribute should in fact equal zero, or some kind of constant value ($P_i e_P = 0$). Overall attitude towards an undifferentiated product will then equal the sum of remaining quality attributes, multiplied by their importance/determinance (taste, and health); $A_{undif} = T_i e_T + H_i e_H = \sum_i^n B_i e_i$. The implementation of organic attribute to a product should logically increase product performance on this dimension, compared to the undifferentiated situation ($P_o > 0$). Since consumers appreciate benefits provided by the sustainable attribute (e.g.: Marian, 2014, Brunsø, et al., 2002), the presence of sustainable attribute should be reflected in increase in importance in terms of determinance in attitude formation. In other words, if the product does not possess any sustainable attribute, sustainability will hardly be determinant in attitude formation towards a product ($e_P = 0$). Differently, when a product possess sustainability attribute, the determinance of sustainability in attitude formation should be positive, as it provides values to consumers ($e_P > 0$). Therefore we propose, that;

H1: *The addition of the organic attribute to a product will activate the sustainability in attitude formation of that product through (a) higher product evaluation on sustainable attribute and/or (b) higher determinance of the sustainable attribute.*

These priming effects occur with respect to the product, to which the sustainable attribute is implemented, itself. Hence, in terms of our "*Conceptual model on attitude formation processes and their impact on choice and preference*", they can be identified at the level of the rational singular evaluative judgment. Adding sustainable alternative in the product assortment might, however, activate sustainability related thinking with respect to the whole product assortment. The presence of a sustainable products adds a new type of evaluative criteria, which was

previously irrelevant to a given judgment (Anagnostou, et al., 2015). In other words, no attribute is relevant for a category evaluation unless it is present in the product category. For example, when there were no mobile phones with touch screen available, people did not find important to have it, because it was simply not relevant. However, after the first mobile phone with a touch screen was launched, and people realized that they can have it, it became one of the most important (relevant) criterion of evaluation of the mobile phones category. Hence, we believe that the introduction of sustainable/organic attribute in the category will, similarly to the mobile phone example, increase the importance of sustainable/organic attribute in terms of relevance in evaluation of the whole category. This effect would occur at the level of rational comparative evaluative judgment in our "*Conceptual model on attitude formation processes and their impact on choice and preference*". Hence we suggest, that;

H2: *The introduction of the organic attribute in the product category will prime sustainability in the product category, through increase in relevance of sustainability in the category purchase.*

Spillover effects

Next to the direct effects, the presence of sustainable attribute in the product assortment can cause effects which are not directly addressed by the message (Anagnostou, et al., 2015). These effects are called spillovers, and they can occur on the target product as well as on other brands in the product category. For this reason we make a distinction between within-product spillovers, which affect beliefs about product which provides sustainable message itself, and between-products spillovers, which affect beliefs about other brands in the assortment. Because positive spillovers were found between one product attribute and other attributes of that product (Ahluwalia, et al., 2001), and the presence of sustainable alternative may spillover to constructs that are irrelevant to actual social and environmental performance (Anagnostou, et al., 2015), organic attribute could potentially spill over to other unrelated attributes of the overall attitude. Because consumers often associate organic products with better performance on health and taste attributes (e.g. Marian, 2014, Fernqvist & Ekelund, 2014; Shepherd, et al., 2005), the presence of organic attribute should activate these associations in consumers' memory and positively spill over to consumers' evaluation of health and/or taste quality attributes of the product. Accordingly, we define the next hypothesis as follows;

H3: *The addition of the organic attribute will create a positive within-product spillover effects towards (a) health and/or (b) taste attributes of that product.*

Organic attribute does not influence only the perception of the product to which it belongs, but it might affect the quality perception of other products in the assortment, the effect we defined as between product spillover effect. The presence of fair trade/sustainable alternative can

negatively spillover towards the social an environmental performance and overall quality evaluations of other brands in the coffee sector (Anagnostou, et al., 2015),Therefore, the introduction of a sustainable/organic product might decrease perceptions of social an environmental performance and overall quality of mainstream (unsustainable) brands in the pasta category. Sustainable alternative emphasizes diversity in the process performance of available products (Anagnostou, et al., 2015). Organic product possesses an information about quality attribute, which is missing for other products in the assortment. When an important attribute is missing, consumers' face uncertainty about the value of the missing information, and they have to draw inferences from product itself or from other products (Kardes, et al., 2004). Hence consumers might use organic product to derive performance on process attribute of the conventional (mainstream) products.

While overall attitude towards undifferentiated product is given by the attributes taste and health, evaluation of organic product includes one attribute extra. Hence overall attitude towards sustainable product can be defined as the evaluation of undifferentiated product increased by the possession of sustainable attribute ($A_{organic} = \sum_i^n B_{ij} e_i + \boldsymbol{P_i e_P}$). Overall attitudes towards organic product might therefore be higher, than overall attitude towards the same product prior the sustainable differentiations ($A_{organic} > A_{undifferentiated}$). Similarly, mainstream products do not claim any process qualities. When there is no product claiming sustainable/organic qualities in the assortment, consumers have no information to evaluate performance on product process qualities and they might evaluate it as neutral or average. However, when sustainable alternative is present, consumers can derive performance on process attribute of mainstream products from the sustainable/organic alternative, hence mainstream products' might appear to perform poorer on process quality attribute. Changes in attitude formation towards the mainstream products caused by the presence of an organic alternative, may lead to decrease in overall attitude towards mainstream products. Put differently, there might be no difference between the target product and mainstream product in terms of process attribute evaluation and overall attitude, when sustainable attribute is missing in the category. However, when a sustainable attribute is present target product might perform better on process attribute and overall attitude towards product might be higher than it is for conventional (mainstream) products. Therefore we propose, that;

H4: *The presence of a sustainable alternative in the assortment will lead to negative between-product spillover effects to (a) overall attitude, and (b) evaluation of the sustainable attribute of the mainstream products.*

Attention effects

Priming and spillover effects are originated by the rational propositions consumers make with respect to the product attributes. Hence, they can be located at the level of rational evaluative judgment in our model. In the purchase environment, the message about the sustainable qualities of a product is not explicitly mentioned to a consumer. Instead, consumers must infer the information given by the message from the product itself. In order for a sustainable information to be properly detected, identified, organized and made sense of, first attention must be paid to it (Bialkova et al., 1014; Bialkova & van Trijp, 2011). Adding an organic attribute to a product in practical terms implies, that an organic label, is added to a product packaging .This is usually accompanied by incorporating of the claim "Organic", "Ecological", "Biological", and so on, in the product name. Therefore, the first stage, which is also a basis for a formation of an automatic attitude, is the attention to the sustainable label/name.

The European organic label is an obligatory differentiation tool for all the producers who claims organic origin of their products, within the whole European Union (EC, reg. 271/2010 of 24 March 2010). Since it is the most widespread organic label in the Netherlands, we can assume that consumers' familiarity with this label will be higher, compared to other labels. This type of sustainable label should properly activate the concept of sustainability. On the other hand, large number of informational stimuli compete for consumers´ attention, while shopping. Thus, consumers´, under the overload of informational stimuli in the environment, may still ignore the sustainable label (Bialkova & van Trijp, 2011; van Herpen, et al., 2012). The attention to a label, was found to be a mediator of the effect of nutrition label information on consumers' choice (Bialkova & van Trijp, 2011). Hence, the attention to a sustainable label might, similarly to the nutritional label, be a mediator in processing of the sustainable information given by the label in the real purchase situation. Because not noticing a sustainable label in fact prevents the occurrence of priming and spillover effects in the purchase situation, we emphasize, that;

H6: *The attention to the organic label is a mediator in activation of priming and spillover effects given by the sustainable attribute in the purchase situation.*

Noticing of the sustainable label may not only activate positive associations related to the sustainability, but it can also remind consumers of the negative aspects of this type of products. High prices of organic/sustainable products are reported to be the biggest barrier to purchase organic/sustainable products (e.g.: Marian, 2014, Paul & Rana, 2012, Henryks, et al., 2014, Shepherd, et al., 2005). Hence, once consumers notice the sustainable label, they might start searching for information about the product price. The attention to the organic label and higher

attention to the price of the product should moreover increase the overall amount of attention dedicated to the product. We therefore propose, that;

H7: *The attention to the organic label might (a) stimulate more attention to the price, and (b) increase in overall attention consumers pay to the product.*

Earlier in this paper, we proposed, that the negative spillover effects caused by the presence of sustainable alternative may occur with respect to other products. As consumers have to realize the presence of a sustainable alternative in the purchase situation, by paying attention to the sustainable label, they somehow must identify, that other products do not possess any properties of such kind. Hence consumers must somehow visually detect the absence of sustainable properties on other products in the assortment. The availability of a sustainable alternative in the product category, may set a new reference point for the category against which consumers evaluate the legitimacy of existing brands in the marketplace (Anagnostou, et al., 2015). This suggests, that differentiated sustainable product might eventually serve as a new standard of comparison.

The standard used in the comparative judgment determines on what subset of information (product features) in consumers´ knowledge is activated during the evaluation process (Mussweiler, 2003). Sustainable product differs from other products in the assortment by the presence of the sustainable label (name), and by the premium price. Therefore we propose that if a sustainable product is selected as a standard of further comparison, two attentional effects may occur. First, once consumers, notice the presence of the organic label on the product, they might start looking if also other products in the category possess some kind of process related claim. This could result in visual search of sustainable labels on other products in the assortment. Second, organic products differ from other products by the price premium, which is also a barrier in the purchase of organic products. Hence, we propose, that adding a sustainable alternative in the assortment will stimulate price-related comparison. This could result in higher attention to the price of products in the assortment in terms of longer mean fixation duration to price, and share of consumers who fixated the label. This could result in higher attention to the overall product assortment in terms of more number of fixations, and longer total fixation duration (van Giesen, 2015). In line with these propositions, we define the eighth hypothesis as follows;

H8: *The attention to the organic label might (a) increase the attention dedicated to the whole assortment, (b) stimulate search for the label on other products, and (c) enhance price related comparison.*

Decision making effects

Earlier in this paper we proposed, that when a sustainable attribute is added to a product, consumers may start making positive associations directly (priming effects), and/or indirectly (within-product spillovers) related to the sustainable qualities of such product, because these links already exist in their cognitive networks (Marian, 2014; Grunert, et al., 2004). They might also realize that other products in the assortment do not possess any attribute related to the sustainability qualities. Consumers might then perceive target product as better in terms of social and environmental performance, and their overall perception of the product might be better (between-product spillover effects) (Anagnostou, et al., 2015). These effects, caused by the presence of a sustainable alternative in the assortment should be positively reflected in consumers´ decision making. Earlier in this paper we concluded, that consumers´ preferences and choices are formed by rather different underlying mental processes. Therefore, the impact of priming and spillover effects given by the presence of a sustainability attribute might differ between the two. A theoretical framework, depicted in the Figure 3, shows how the identified priming, and spillover, effects might affect consumers´ choice and preference for a sustainable product.

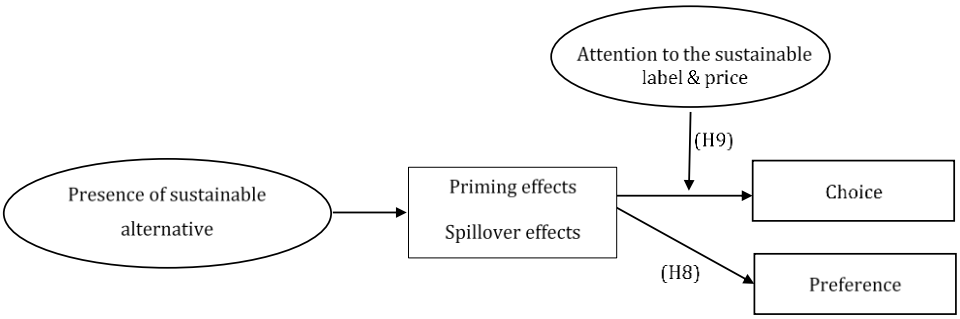


Figure 3: The model on impact of spillover and priming effects on choice and preference

When people are asked for their preferences the propositional reasoning is always activated (Zajonc, 1980).Because similarly to the rational attitudes, preferences are usually measured by the self-reported methods (Warren, et al., 2011). To express their preferences consumers are either asked to directly evaluate attributes of the products (e.g. sustainability), which activates the concept (e.g. sustainability) in their cognitive networks (direct rating method), or to evaluate products at the expense of other products (point allocation method, ranking method) (Doyle, et al., 1997; Bass, et al., 1972). The latter mentioned might stimulate more processed attribute by attribute comparison, as consumers have to think about why to give product A more points/better ranking that to product B or C. Hence when consumers´ form their preferences,

sustainability concept should be activated in consumers' memory directly, as the activation of rational reasoning increases the salience of the sustainable attribute. Rational priming and spillover effects should be then directly reflected in consumer preferences for sustainable product. We therefore propose, that;

H9: *Rational priming and spillover effects, caused by the addition of a sustainable attribute to the product, will increase consumers´ preferences for the sustainable product.*

Consumers make their choice decisions spontaneously at the point of purchase (Steenkamp, 1990). Consumers' choices are driven by the attention to the specific stimulus, which leads to the activation of perceptual processes, made with respect to these stimuli (Bialkova & van Trijp, 2011). This implies, that only when a sustainable label/name has been paid attention to, consumers realize that a product has a sustainable/organic attribute in the real purchase situation. In line with hypothesis H5, only attention to the sustainable label can activate priming and spillover effects steming from the presence of the sustainable alternative in the assortment. The effect of priming and spillover effects on choice of the sustainable product is therefore modified by the attention to the sustainable label. Despite the positive effects which are associated with the sustainable attribute, consumers also make negative associations with respect to organic products. Since sustainable products are often introduced at the higher price levels, price represents a substantial barrier to purchase (e.g. Marian, 2014, Paul & Rana, 2012, Henryks, et al., 2014,). Thus, the positive impact on consumers choices caused by the priming and spillover effects could decrease due to the price premium imposed to the organic product. Accordingly, we propose, that;

H10: *The positive impact of rational priming and spillover effects on consumers' choice for the sustainable product will be moderated by (a) the attention to the sustainable label, and (b) the price of the product.*

Methodology

To test the hypotheses, we applied a between-subject experimental design with post measurement (Churchill & Iacobucci, 2005; de Vaus, 2001). The data collection occurred at one point in time. Respondents were randomly assigned to one of the three conditions; control, organic, and organic*price. Following Bialkova & van Trijp's (2011) approach, we combined eye tracking with visual search and choice paradigm. Two methods of data collection were used; eye tracking and questionnaire. Eye tracking methodology was applied to understand the automatic part of the consumers´ information processing. This technique enabled us to obtain 3 types of measures: (1) eye-tracking (in terms of the time from when the eyes first land on a given area of interest (AOI) until when they move out of the AOI, number of fixations, fixation duration), (2) response time (the time from the appearance of the stimulus set until a choice is made), and (3) choice made (product chosen from a particular stimulus set) (Bialkova & van Trijp, 2011). In order to reveal the rational part consumers' information processing, and understand inferences which can barely be revealed by the eye tracking method (choice motivation, preferences, attitude, attribute evaluation, and relevance of the product attributes), the eye tracking method was complemented with a questionnaire technique. At the beginning of this paper, we chose pasta as a case for this study, thus the whole methodology Tywas developed with respect to this specific product category. The detailed description of the pasta category, including specifics of the pasta market, consumers of pasta, and the summary of the specific attributes and cues in the perception and evaluation of pasta products, which was used as a basis to build the methodology is accessible in Appendix 1.

Procedure

The experiment was held in the Netherlands, in one of the buildings of the Wageningen University campus. In total it took two weeks and two days, in the weeks of 29.2.-4.3.2016, 7.3.-11.3.2016, and 15.-16.3.2016, to collect the required amount of participants. Consumer Behaviour Room (Q61), located in the basement of the Leeuwenborch building, was used as a place to conduct the experiment in. The research room was divided by the movable walls in three parts; waiting area, eye tracking corner, and questionnaire corner (Appendix 2). Respondents came to participate in the research on their own initiative, mainly based on the flyers, posters, and stands (Appendix 3) distributed in the Leeuwenborch building when the experiment was being executed. The poster was also published in the one of the sites on Facebook dedicated to the students of the Wageningen University.

Once respondents entered the room, they were informed about the purpose of the study. After they read the instructions and signed the consent form (Appendix 4, and 5), they were asked to

sit in front of the computer with the integrated RED in a rightful way; at the height so they looked in the middle of the monitor, and about approximately 60 cm distance between head and the screen (iViewX manual, 2012). When the right position of the participant was assured, the 9-point calibration procedure (average error in gaze position less than 0.5°) with 4 point validation was run. After a successful calibration, short instructions: "*Choose a product you would probably buy in the supermarket. After you make your decision, say "YES" out loud"* were displayed on the screen. The eye tracking measurement started with the word "*START*" which appeared on the screen after respondents read the instruction text.

Prior the stimulus image, a fixation cross appeared in the middle of the screen for the period of 500 ms (Bialkova, van Trijp, 2011), to assure respondents to look at the middle of the screen. When the fixation cross disappeared, a stimulus image (Appendices 6, 7, and 8), the front-of-pack image of all the eight products in the product set, came out. Stimulus image was displayed until a respondent said "*yes*" to signal he or she had made his or her choice. After that, a new image with numbers on the products appeared on the screen and respondents were asked to say the number of the product of their choice. The eye tracking recording stopped with the text "*EXPERIMENT OVER*", displayed after respondents mentioned the number of the product they selected.

Respondents' eye movements were recorded with remote eye tracking device (RED) of Senso Motoric Instruments (SMI) The RED was implemented under the 19'' full colour computer screen, with a 1280x1024 pixel resolution, on which the stimuli were presented. The gaze tracking experiment was prepared and executed using two complementing softwares; SMI Experiment Center™ and SMI iView X™. SMI Experiment Center™ was used to create a design of the slideshow and keep control over data recording. SMI iView X™ software enabled the gaze tracking data acquisition. Eye positions were sampled at 50Hz (Bialkova & van Trijp, 2011). For the analysis of the eye gaze data, a threshold value of 80 ms for a minimal fixation duration and 100px of maximal dispersion were set up (Salvucci & Goldenberg, 2000).

After the eye tracking section, participants were asked to move to the other part of the research room and to sit in front of one of the three computers reserved for the study to fill up the questionnaire. Researcher loaded the questionnaire for the participant, inserted the respondent's number, given to the respondent during the eye tracking procedure, and selected the right questionnaire version. Questionnaire versions were a priori randomized for a particular respondent's number (details in Table 1). Respondents continued with filling out the questionnaire themselves thereafter.

The questionnaire was created in the web-based survey software Qualtrics, and it contained 10 questions. A first set of questions was related to the decision making of the respondents. In

question one, respondents were asked about which product they chose in the eye tracking section. Second question referred to the choice motivation, and third question investigated the preference for the products in the assortment. A set of following four questions was focused on respondents' personal variables; gender, age, nationality, and study program. Question number eight consisted of a set of sub-questions investigating the attitude, and attribute evaluation of the target product, Napolina. Question nine, presented the same set of sub-questions as previous for a mainstream product. To minimize the fatigue, each respondent evaluated the target product, but only one for one of the two mainstream products; Barilla or Signature penne rigate in the question nine. For this reason, six questionnaires version were created. A detailed overview of the questionnaire versions and the number of participants to which a particular questionnaire version was allocated is shown in the Table 1. Finally, question number ten dealt with the importance of all the product attributes for a participant. Full version of the questionnaire can be found in Appendix 9.

Table 1: Overview of the questionnaire versions

Condition	Questionnaire version	Products to evaluate	Number of respondents
Control A	1	Napolina + Barilla	26
Control B	2	Napolina + Signature	21
Organic A	3	Napolina + Barilla	28
Organic B	4	Napolina + Signature	24
Organic*price A	5	Napolina + Barillla	28
Organic*price B	6	Napolina + Signature	32

Completion of the whole procedure required approximately 10-15 minutes of participants' time, depending on the ease of the calibration procedure, and individual speed of the respondents when dealing with the questionnaire.

Respondents

In total, the data of 170 participants were collected in this experiment. Despite their interest, several participants had to be rejected from participation in the study, because of calibration difficulties (glasses caused too much reflection, consequences of eye surgery). One participant was refused because he didn´t use pasta at all. The composition of the respondents by gender was 69% of females to 31% of males. The sample population was mainly composed of Dutch nationality, representing 63% of the participants. Remaining 37% participants were composed of people of 28 different nationalities (Afghan, American, Australian, Belgian, Brazilian, British, Bulgarian, Chinese, Colombian, Croat, Czech, Danish, Ethiopian, French, German, Greek, Honduran, Indian, Indonesian, Italian, Lebanese, Mexican, Romanian, Russian, Singaporean,

Spanish, Taiwanese, and Venezuelan). The age of participants ranged from 17 to 40 years. 11% of participants were younger than 20, 71% of participants had age between 20 and 30 years, and 18% of the respondents were older than 30 years. Respondents were students of roughly all the bachelor and master specializations lectured in Wageningen University (full list in Appendix 10); 38% of respondents were students of a bachelor programme, 57% of respondents followed master degree, and remaining 4% were composed of PhD students, exchange students, interns, a 2 non students.

Stimuli

Stimuli were presented in an assortment consisting of a set of eight different brands of penne rigate (Appendices 5, 6, and 7). Products used in this study were products available in Tesco supermarket (tesco.com) chain in the United Kingdom, with the exception of Garofalo gluten free pasta, available through amazon.com. Using the foreign brands of pasta (Tesco penne, Napolina, Garofalo, Signature, Cook Italian, and Tesco Daily Value), mostly not available in the Dutch market, was intended to minimize the chance of respondents' familiarity with the brands. These assumptions were invalid for Barilla and De Cecco, as these brands operate globally. However, omitting them from this experiment might lead to a lack of realism as their presence/absence may substantially affect consumers' decision making.

Pasta in the experiment looked relatively alike in terms of shape and size, being all penne rigate. Differences in color of pasta in the packages were minimal. Nutritional information was not shown on the pictures, as not all the products contain this type of information on the front of the package in the real situation. Product packaging mostly had a plastic form with the exception of Barilla, which is usually being sold in paper boxes. Pasta packages slightly varied in terms of visual design (such as colors, presence/absence of image, size and position of the etiquette, etc.). All products were made in Italy, which was explicitly mentioned to respondents prior the measurement in the written instructions. No other information about regional origin was provided on product packaging, therefore products were homogenous in terms of country/region of origin. The product set contained one product with a glutten free label (Garofalo) (Appendix 11). With the exception of the experimental manipulation, no other information about process characteristics, such as handicraft production etc., were provided. The assortment contained products of different price levels; low price (0-0.9 €/500g), middle price (0.9-1.99 €/500g), and high price (2+ €/500g).

The experimental manipulation consisted of the presence/absence of the sustainable attribute and variation in the product price; standard versus premium. Sustainable attribute was signalized by the European organic production label and description "*Organic*" just above the

label (sustainable cue) (Appendix 11). Three experimental groups were created; Control, Organic, and Organic*Price. Manipulation was implemented to only one product in the assortment; Napolina penne rigate. In the Control condition, the assortment contained Napolina penne rigate with no sustainable cue, offered by standard price of € 1.29 for 500g. In the Organic condition, Napolina penne rigate contained sustainable label and it was offered for standard price of € 1.29/ 500g. In the condition Organic*price, Napolina penne rigate contained sustainable cue, and was offered by the premium price of € 1.61/ 500g. Different displays of Napolina penne rigate are depicted in the Figure 1.

Figure 4: Napolina penne rigate in experimental conditions

Measures

Choice made was operationalized as a product chosen from the assortment (Bialkova & van Trijp, 2011). Respondents first mentioned the number of the product of their choice during the eye tracking section, then they were once more asked to indicate their choice by clicking on the product in the questionnaire section. Both responses were compared to check for the rightfulness of the data. No discrepancies were found. Data were further treated as binary variables, coded as "1"=chosen, "0"=not chosen. **Retention time,** or the length of the decision making task, was measured as the time from the appearance of the fixation cross until a respondents said "yes" [in ms] (Bialkova & van Trijp, 2011). **Choice motivation** was investigated in an open ended question "*Why did you chose this product?*" (van Herpen, et al., 2012). The answers were content analysed and split into 10 groups. Answers containing expressions such as organic label, biological, organic, and organic trade mark were coded as "*Sustainability*".

Preference was operationalized as a number of points obtained out of 100 [in %] (Doyle, et al., 1997). Respondents´ preferences were investigated in the questionnaire section, after the choice tasks. We used the point allocation method, asking people to distribute 100 points among the set

of eight products (Doyle, et al., 1997). Respondents received following instructions; "*Imagine you have 100 points. Distribute all your points among the products based on your preference. Next to the product you chose, you can use as many products as you want to give some points*".

To measure **the evaluation of product attributes** (Health, Taste & Appearance, and Process/Sustainability), and **overall attitude towards the product,** multi-item seven point semantic differential scales were used (Al-Hindawe, 1996). Individual scores were computed as the mean across respondents score on multiple items (Parasuraman, et al., 1988); 2-items for Health attribute, 3-items for Taste & Appearance attribute, 5-items for Process/Sustainability attribute, and 3-items for Overall Attitude. Respondents were asked "*How would you evaluate these penne rigate?*" in the two questions of the questionnaire (one for the target product, one for the mainstream product). Then they judged a set of 14 sub-questions for each of the two products. Health was measured on scales with end poles labelled as "*unhealthy (1)-healthy (7*)", and "*negatively (1)-positively(7) contributes to health*". This scale was developed based on existing measures of perceived healthiness (van Herpen, Seiss, van Trijp, 2012). Taste & Appearance was measured on scales with extremes labelled as "*tastes bad (1)-good (7)*", "*looks bad (1)-good(7) after cooking*", and "*sticky (1)-not sticky (7) after cooking*". The scale was developed specifically for the product type involved in the study, based on previous research done on pasta (Krutulyte, et al., 2009, Cavallo, et al., 2014). The evaluation of Process attribute was computed on five semantic differential scales with end poles labelled as "*environmentally unfriendly (1)-friendly (7)*", "*harmful (1)-beneficial (7) to society*", "*pesticides (1)-no pesticides (7)*", "*socially irresponsible (1) – responsible (7)*", and "*unfair (1)-fair (7) working conditions*". This scale was adapted from an existing scale to measure social and environmental product performance (Anagnostou, et al., 2015). Overall attitude towards the product was measured using an existing three-item scale, ranging from "*bad (1) –good (7)*", "*unfavourable (1) – favourable (7)*", "*unsatisfactory (1) –satisfactory (7)*" (Petty, et al., 1983).

Attribute relevance in the purchase of pasta was measured by the direct-rating method (van Ittersum et al., 2007). In line with the previous measurement, respondents judged the importance/relevance of Health (2-items), Taste & Appearance (3-items), and Process/Sustainability (5-items) attributes. Respondents were asked *"When I purchase pasta, I believe these aspects are very important/very unimportant*", and they judged the importance of attributes on the five point differential scale anchored by "very *unimportant (1)*" and "very *important (5)*" (Churchill & Iacobucci, 2005).

Reliability of the questionnaire concepts was assessed based on the size of Cronabch´s alpha coefficient calculated for the set of items measuring the particular concept (Malhotra, 2004). The results of the Reliability analysis show Cronbach´s α for all of the measured concepts above the

critical value of 0.7 (Nunnally, 1978). The only exception represented *Health*, where the value assumed 0.676 (Appendix 12). We can therefore conclude, that the reliability of the questionnaire was sufficiently high.

Attribute determinance was measured as the weight of a given attribute in the multi-attribute attitude model, where attitude equals the sum of attribute scores (B_i) multiplied by their importance (e_i); $A = \sum_n^i B_i e_i$ (Ajzen & Fishbein, 1980, Fishbein & Ajzen, 1975, van Ittersum etc.). The determinance of attributes Taste & Apperance, Health, and Sustainability was represented by the coefficients β in the multiple linear regression model $A = \beta_T T + \beta_H H + \beta_S S$, where mean overall attitude is the function of mean taste evaluation, mean health evaluation, and mean sustainability evaluation, calculated as described before.

Priming effect was operationalized as the changes in a) determinance of the sustainable attribute of Napolina, (b) evaluation score of the sustainable attribute of Napolina, and (c) relevance of the sustainable attribute in the purchase of pasta in between control and experimental conditions (Neely, 1997).

Consistently with the Brown& Dacin's (1977) approach, **within-product spillover effect** was operationalized as the change in mean values of Health and/or Taste attributes evaluation, and/or overall attitude towards Napolina penne rigate after the addition of a sustainable attribute. Following Anagnostou, et al. (2015) approach, between-product spillover effect was operationalized as the change in comparative advantage between target and mainstream products on sustainability attribute evaluation, and overall attitude. Between-product spillover was therefore measured as the difference between organic and mainstream products on sustainability attribute evaluation, and overall attitude scores.

The attention was investigated for the areas of interest (AOIs) of the three different levels; (a) attention to the assortment, (b) attention to products and (c) attention to the specific product elements. The **attention to the assortment** AOI was operationalized as the total number of fixations, referring to the number of fixations a respondent made to all the AOIs in the assortment [in number of fixations], and total fixation duration, implying the sum of all fixation durations [in ms] (adapted from van Giesen´s (2015) measurement of elaborateness of processing). The **attention to product AOIs** was operationalized in terms of attention proportion, or for how long respondents looked at a particular AOI relative to the time they spent looking at the whole assortment. Attention proportion was calculated as the ratio between the fixation duration to the specific product AOI [in ms] and total fixation duration [in ms]. Fixation durations of three different products were obtained; Napolina AOI, Signature AOI, and Barilla AOI. Similarly, the **attention to the product element AOIs** was defined in terms of attention proportion to the specific AOIs; Brand AOI, Price AOI, and Label AOI. Consistently, the

attention proportion was calculated as the ratio between the fixation duration of the specific AOI and total fixation duration. In total, the attention proportion was calculated for nine product elements AOIs; Brand, Price, and Label of Napolina, Signature, and Barilla products. The attention to the all nine specific product elements AOIs was investigated in terms of how many respondents fixated the specific AOI. Responses were treated as binary variables, labelled as "1"=fixated, and "0"=not fixated.

Data Analysis

After the termination of the data collection, questionnaire answers were downloaded from Qualtric as an MS Excel file. Due to the different questionnaires versions, the questionnaire data in excel file were not displayed in a rightful way, hence they needed to be adjusted using several functions in MS Excel. The eye tracking recordings obtained during the measurement were uploaded into SMI BeGaze™, which is a specific software for gaze tracking data analysis. First, SMI BeGaze™ software was used to define AOIs towards which consumers' attention was measured (Figure 2). Then, statistical indicators with respect to the particular AOI were retrieved and saved as several text files. These text files were further exported to MS excel, merged and paired together with the questionnaire data.

Figure 5: Example of AOIs

The whole dataset was visually checked prior to further analysis to eliminate any suspicious data. To make sure, that each of the participants was given the right version of the stimulus set and questionnaire version, the data were checked with respect to the randomization list prepared prior the testing. Choice made by respondents indicated in the questionnaire was checked against choice mentioned by a participant to the researcher during the eye tracking measurement. No discrepancies were found. The first day of the data collection, one question was mistakenly omitted in questionnaire versions 2 and 4, therefore data of 6 participants were left out. For three respondents the eye tracking data file was either damaged or empty. One respondent apparently misunderstood the task and didn´t say "yes" when he chose the product. His eye tracking recording was extremely long and therefore we sorted it out. In case of one participant, researcher mistakenly allocated different version of a questionnaire to the respondent. Therefore, data of some participants were sorted out prior further analysis. After the purification, from total 170 participants, 159 were used for further analysis.

Statistical analysis proceeded in six steps. First, choices, choice motivations, and probabilities of fixation were compared as a binary variables compared between the three groups in Chi-Square Test for Association. Second, one way analysis of variance was used to compare mean values of retention time, preferences, attribute relevance, overall attitudes, attribute evaluations, total number of fixations, total fixation duration, and relative attention to product AOIs between the three groups. In the third step we estimated the determinance of product attributes in overall attitude using multiple linear regression analysis. Fourth, two way ANOVA mixed design was used to analyse relative attention to price AOI, brand AOI, and label AOI between products (within-subject factor) and experimental conditions (between-subject factor). Fifth, mean differences in sustainability attribute evaluation and overall attitude scores between target and mainstream products were compared pairwise in the set of paired sample t-tests (target vs mainstream) and independent sample t tests (mainstream vs mainstream). In the final, sixth step, respondents who fixated sustainable label on Napolina were sorted out, and steps (1), (2), (4), and (5) were performed once again to compare respondents who fixated the label in the two experimental conditions. Control group for the last step consist of respondents who did not fixated the label in experimental conditions and who were exposed to the control condition.

All statistical analysis were conducted using SPSS statistical software, based on the instruction in Field, A., (2013), and online youtube tutorials (Buchanan, 2016). Prior analysis assumptions for a given analysis were checked. In the results section we refer to assumption only in case they were violated. Before the analysis, data were also checked for outliers. In case of analyses of variance, multivariate outliers with Mahalanobis score, higher than the critical value of 16.266 were sorted out (Buchanan, 2016).

Results

The result section is organized in two sections. First, the resulting mean scores are presented in a set of three descriptive tables and the effects of manipulation are discussed. Based on the abstract concept they rely to, mean values were organized into three descriptive tables; Decision making, Automatic information processing, and Rational information processing. Decision making part refers to the results for the concepts of choice, choice motivation, decision time, and preference. Eye tracking data mainly build the basis for Automatic processing section, outlining the development in number of fixations, total fixation duration, relative attention to AOIs, and percentage of respondents who fixated AOIs. The rational processing part summarizes the data obtained during the questionnaire part, and it incorporates the concepts of overall attitude, evaluation of product attributes, and relevance of product attributes. In the second section, results of the analysis are further discussed with respect to the expected effects and specific hypotheses are answered.

From Table 2, depicting the development in decision making, we can observe one manipulation effect. While in control condition, nobody mentioned "*sustainability*" in the choice motivation task, in the organic condition 8 participants, and in the condition organic*price condition 6 participant spontaneously mentioned "*sustainability*" as the reason for their choice. This suggests, that the introduction of a sustainable label/name to a product spontaneously activates sustainability related association in consumers´ mind-sets, which is consciously translated into consumers´ behaviour.

The results for automatic information processing, displayed in Table 3, shows two effects of the manipulation on the target product in attention to the stimuli in the assortment. First, the attention to the Label AOI of Napolina penne rigate significantly increased in terms of percentage of respondents who fixated on the label. The percentage of respondents who fixated the label grew to 33% in the organic condition, and to 38% in the organic*price condition. In the control condition, where no information was provided, 4% of the respondents randomly fixated the label area. Second, attention to the price of the target product in terms of the percentage of respondents who fixated the Price AOI of Napolina significantly increased from 68% achieved in control condition, to 83% in organic condition, and to 85% in organic*price condition (Table 3). Despite these manipulation effects in consumer´ automatic information processing, results show, that vast majority of the consumers did not pay attention to the sustainable label/name (the differentiator), hence they were not affected by the sustainable information. Overall, the impact of the sustainable information was therefore not reflected into automatic information processing and decision making.

Table 2: Descriptives; Results on Choice and Preference

Concept	C1: Control N=47		C2: Organic N=52		C3: Organic *Price N=60		χ^2/F	p-value
CHOICE [in n and %]								
Tesco	13	28%	10	19%	16	27%	1.185	.553
Napolina	5	11%	9	17%	8	13%	.942	.625
Garofalo GF*	0	0%	2	4%	3	5%	3.659	.160
De Cecco*	6	13%	6	12%	3	5%	2.449	.294
Signature*	1	2%	0	0%	1	2%	.1.627	.443
Cook Italian	9	19%	10	19%	15	25%	.750	.687
Barilla	5	11%	5	10%	7	12%	.123	.940
Tesco Quality	8	17%	10	19%	7	12%	1.288	.525
MEAN DECISION TIME [in ms]								
Mean	20286.3		18238.4		20695.9		.688	.504
Std. Deviation	12338.5		9853.6		12438.4			
CHOICE MOTIVATION [in n]								
Package Design	26		33		30		2.060	.357
Perceived Value	16		13		23		2.304	.316
Cheap	14		11		11		2.072	.355
Familiarity	5		8		8		.486	.784
Sustainability	0		8		6		11.106	.004
Healthy	3		6		3		1.758	.415
Pasta Appearance	5		2		3		2.054	.358
Quality	3		2		3		.333	.847
Tasty	3		1		3		1.391	.499
Others	0		4		2		5.355	.069
MEAN PREFERENCE [in %] (df=141)								
Tesco	17.5		18.9		20.3		.330	.720
Napolina	13.1		13.3		13.3		.004	.996
Garofalo GF	6.9		7.7		10.7		1.711	.184
De Cecco	7.6		8.5		7.6		.112	.894
Signature	8.5		5.7		7.3		1.563	.213
Cook Italian	14.4		15.4		16.2		.221	.802
Barilla	14.5		12.6		12.2		.324	.724
Tesco Quality	17.5		17.9		12.4		1.214	.300

* Results interpreted in Likelihood Ratio (more than 20% of cells have expected count less than 5)

Three manipulation effects can be observed in the development of the rational information processing. They are summarized in the Table 4. First, the evaluation of the health and sustainability attribute of Napolina penne rigate significantly increased after addition of a sustainable attribute. Sustainability evaluation of Napolina penne achieved the mean score of 5.2 in organic condition, and 5.4 in organic *price condition, which is significantly higher that the values obtained in the control group, 4.1. Health of Napolina was evaluated as 4.3 in control condition and increased to 5.0 in organic, and 4.7 in organic*price condition. Second, the comparison of the relevance of the sustainable attribute in the purchase of pasta shows significant differences among the three experimental conditions. Third, the determinance of the sustainable attribute in overall attitude towards Napolina penne raised after addition to the sustainable attribute. Moreover, same effects were observed in the determinance of sustainable

Table 3: Descriptives: Results for Attention

Concept		C1: Control N=47	C2: Organic N=52	C3: Organic *Price N=60	F/χ^2	p-value	df
NUMBER OF FIXATIONS							
Mean		62	56	58	0.463	0.648	156
Std. Deviation		36	23	32			
TOTAL FIXATION DURATION [in ms]							
Mean		17125.591	15166.2	17478.4	0.823	0.441	156
Std. Deviation		10452.0	8547.1	10890.1			
Relative Attention to Product AOI [in %]							
Napolina	Mean	13.8	17.1	15.5	1.585	.208	153
	Std. Deviation	7.4	10.9	8.7			
Barilla	Mean	11.1	12.1	10.6	.719	.489	151
	Std. Deviation	7.0	8.1	5.4			
Signature	Mean	9.6	7.7	7.8	3.271	.041	153
	Std. Deviation	4.7	3.8	4.2			
RESPONDENTS WHO FIXATED [in %]							
Brand	*Napolina*	57.5	53.9	56.7	.149	.928	
	Barilla	25.5	25	28.3	.034	.911	
	Signature	76.6	71.2	76.7	.559	.756	
Price	*Napolina*	68.1	82.7	85	5.143	.076	
	Barilla	53.2	46.2	60	.116	.342	
	Signature	55.3	38.5	43.3	2.979	.225	
Label	*Napolina*	49	32.7	38.3	17.313	.000	
	*Barilla**	0	1.9	6.7	3.940	.139	
	*Signature**	0	0	3.3	5.161	.076	
Relative attention to Brand AOIs [in %]							
Napolina	Mean	1.7	2.2	2.3			
	Std.Deviation	2.1	3.3	3.3			
Barilla	Mean	0.7	0.4	0.4			
	Std. Deviation	2.8	3.0	3.0			
Signature	Mean	3.6	2.9	3.1			
	Std. Deviation	1.7	1.0	1.0			
Relative attention to Price AOIs [in %]							
Napolina	Mean	2.4	3.1	3.0			
	Std. Deviation	2.5	3.8	2.5			
Barilla	Mean	1.3	1.2	1.3			
	Std. Deviation	1.9	1.8	1.6			
Signature	Mean	1.4	0.9	1.1			
	Std. Deviation	1.9	1.3	1.6			
Relative attention to Label AOIs [in %]							
Napolina	Mean	0.1	1.0	1.4			
	Std. Deviation	0.3	2.9	2.8			
Barilla	Mean	0	0	0.1			
	Std. Deviation	0	0	0.5			
Signature	Mean	0	0	0.1			
	Std. Deviation	0	1.8	2.9			

*Results interpreted in Likelihood Ratio (more than 20% of cells have expected count less than 5)

Table 4: Descriptives Rational Processing

Concept		C1: Control N=47	C2: Organic N=52	C3: Organic *Price N=60	F	p-value
MEAN OVERALL ATTITUDE						
Napolina	Mean	4.96	5.19	5.17	0.850	0.429
	N	47	52	60		
	Std. Deviation	1.03	1.04	0.87		
Barilla	Mean	4.98	4.55	4.03	1.369	0.260
	N	26	28	28		
	Std. Deviation	1.06	1.33	1.19		
Signature	Mean	4.73	4.35	4.49	0.819	0.445
	N	21	24	28		
	Std. Deviation	0.90	1.12	0.99		
MEAN TASTE EVALUATION						
Napolina	Mean	4.78	4.73	4.8	0.083	0.920
	N	47	52	60		
	Std. Deviation	0.95	0.98	0.81		
Barilla	Mean	4.46	4.43	4.04	1.172	0.315
	N	26	28	28		
	Std. Deviation	1.17	1.20	1.15		
Signature	Mean	4.52	4.33	4.34	0.210	0.811
	N	21	24	32		
	Std. Deviation	1.12	0.91	1.23		
MEAN HEALTH EVALUATION						
Napolina	Mean	4.33	4.98	4.73 [a]	5.812	0.004
	N	47	52	60		
	Std. Deviation	0.94	1.01	0.90		
Barilla	Mean	4.04	3.75	3.71	0.679	0.510
	N	26	28	28		
	Std. Deviation	1.11	1.14	1.08		
Signature	Mean	4.33	3.92	4.06	1.046	0.357
	N	21	24	32		
	Std. Deviation	1.02	0.93	0.98		
SUSTAINABILITY EVALUATION						
Napolina	Mean	4.14	5.23	5.43	48.845	0.000
	N	47	52	60		
	Std. Deviation	0.66	0.92	0.76		
Barilla	Mean	4.58	4.46	4.75	0.213	0.808
	N	26	28	28		
	Std. Deviation	1.68	1.83	1.40		
Signature	Mean	4.61	4.29	4.53	0.469	0.628
	N	21	24	32		
	Std. Deviation	1.28	1.20	1.14		
RELEVANCE TASTE						
Mean		4.18	4.07	3.97	1.085	0.340
Std. Deviation		0.75	0.73	0.79		
RELEVANCE HEALTH						
Mean		3.90	3.87	3.93	0.069	0.934
Std. Deviation		0.79	0.90	0.88		
RELEVANCE SUSTAINABILITY						
Mean		3.33	3.17 [a]	3.68 [b]	5.367	0.006
Std. Deviation		0.84	0.94	0.74		

[a] Not significantly different from the control group at the signifikance α=.05 (Tukey HSD;*p*=.088)

[b] Not significantly different from the control g. at the signifikance α=.05 (Tukey HSD; *p*=.086), differs only from Organic condition

attribute in overall attitude towards the mainstream brands Barilla and Signature. Sustainability statistically significantly predicted overall attitude towards Napolina and Barilla in both experimental condition, and towards Signature penne rigate in Organic condition. Details on this effect are depicted in Table 5. These results show, that when a sustainable label is present, rational information processing is strongly affected, not only with respect to the target product, but with respect to other products in the assortment. Preliminary results show that the experimental manipulation was successful. The presence of a sustainable label caused changes in consumers´ decision making, automatic, and, especially, rational information processing.

Priming effects

We proposed, that two priming effects might arise due to the addition of a sustainable attribute in the product category. In H1, we hypothesized that adding a sustainable attribute to the product primes sustainability into overall attitude formation towards that product. We proposed that the overall attitude formation might be affected by a) increase in product evaluation of the sustainability attribute, and/or b) increase in determinance of the sustainable attribute in attitude formation. Hypotheses H2 suggested, that the introduction of the sustainable attribute primes sustainability in the product category evaluation, through increase in relevance of sustainable attribute in the category evaluation.

To test H1a, mean scores for sustainability evaluation of Napolina were compared between the groups. Results, as displayed in Table 4 show, that the mean evaluation of sustainability of Napolina is higher in both experimental conditions. The difference in mean evaluation of the sustainability attribute of Napolina is statistically significant (F=48.845, p=.000). These finding supports the hypothesis H1a. Adding sustainable attribute to the product primed sustainability in attitude formation towards the product through increase in product evaluation of the sustainability attribute.

To test the hypothesis H1b, nine multiple linear regression models ($A_i = T_i e_T + H_i e_H + P_i e_P$) were run to assess the development of the determinance of sustainability (e_P). Results are interpreted in terms of coefficients β, t-values, and p-values in Table 5. In both experimental conditions, Organic (β_S=0.442, p=0.000), and Organic*Price (β_S=0.481, p=0.000), sustainability statistically significantly predicted overall attitude towards Napolina penne rigate. The determinance of the sustainability in overall attitude towards Napolina penne rigate increased compared to the control condition (β_S=0.201, p=0.128). In the control condition, the product did not possess any sustainable attribute, hence the predictive power of this attribute to predict overall attitude towards Napolina penne rigate was low. Differently, after the implementation of the sustainable attribute, the predictive power of the sustainable attribute in predicting overall

attitude towards Napolina increased. The determinance of other attributes of Napolina penne rigate did not change compared to control group. These results support the hypothesis H1b. Adding sustainable attribute in the product category primed sustainability into attitude formation of the sustainable product, through increased determinance of sustainable attribute in overall attitude.

Table 5: Predictive power of the regression coefficients

Product	Attribute	C1: Control			C2: Organic			C3: Organic *Price		
		β	t	p	β	t	p	β	t	p
Napolina	Taste	0.457	3.723	0.001	0.418	4.049	0.000	0.421	4.225	0.000
	Health	0.219	1.684	0.990	0.128	1.199	0.072	0.018	0.181	0.857
	Sustainability	0.201	1.551	0.128	0.442	4.020	0.000	0.481	4.884	0.000
	R^2	*0.502*			*0.619*			*0.523*		
Barilla	Taste	0.382	2.183	0,040	0.586	4.705	0.000	0.721	6.841	0.000
	Health	0.522	2.477	0.021	0.004	0.032	0.974	0.000	-0.001	0.999
	Sustainability	-0.139	-0.776	0.446	0.428	3.395	0.002	0.355	3.244	0.003
	R^2	*0.552*			*0.687*			*0.756*		
Signature	Taste	0.632	3.801	0.001	0.550	3.994	0.001	0.455	2.750	0.010
	Health	0.211	0.995	0.334	0.131	0.640	0.359	0.203	1.266	0.216
	Sustainability	0.97	0.443	0.663	0.801	3.319	0.003	0.224	1.490	0.147
	R^2	*0.582*			*0.626*			*0.548*		

H2 was analysed by the group comparison of the mean relevance scores. Results of the analysis show significant differences in mean relevance of sustainability (F=5.367, p=.006), as can be observed from Table 4. Despite this fact, mean relevance develops differently than expected. The proposed increase occurred only in situation when sustainable attribute is introduced at the premium price. In organic*price condition mean relevance scored assumed the value of 3.68. Surprisingly, when sustainable attribute was increased at unchanged price, relevance of sustainability in the purchase of pasta dropped to 3.17 compared to 3.33 achieved in the control group. These results partially support hypothesis H2. Sustainability is primed into the product category evaluation through increased relevance, only if sustainable attribute is introduced together with the premium price.

Spillover Effects

We proposed, that in response to the addition of the sustainable attribute in the product category, several spillover effects might occur. In H3 we proposed that the presence of a sustainable attribute will positively spillover to other unrelated attributes of the product, such as (a) health and/or (b) taste. Hypothesis H3 was tested by the group comparison of the mean evaluation scores on Taste and Health attributes of Napolina penne rigate. Results, depicted in

Table 4 shows, that the Taste evaluation of Napolina does not show any changes between control and experimental condition, hence hypotheses H3a was not supported. Conversely to that, mean evaluation of Health attribute of Napolina significantly increased compared to the control condition (F=5.812, p=.004). These results are consistent with the hypothesis H3b. The presence of an organic attribute positively spilled over the evaluation of Health attribute of the product.

In H4 we suggested that the presence of sustainable alternative in the assortment will create negative between product spillover effects to (a) sustainability attribute evaluation and (b) overall attitude towards mainstream products. To test H4, mean differences in overall attitude, and sustainability attribute evaluation between Napolina and Barilla, and Napolina and Signature penne rigate were analysed in a set of pairwise comparisons, and results were discussed between control and experimental groups. Results of the analysis are displayed in Table 6, and Table 7. From Table 6 we can observe significant differences in the evaluation of a sustainable attribute between both Napolina and Barilla, and Napolina and Signature. In situation, when sustainable attribute is present, the difference between Napolina and Signature is significant in both the organic (t=3.326,p=.003), and organic *price conditions (t=3.360,p=.002). Similarly, the difference in mean sustainability score between Napolina and Barilla is significant in both organic (t=1.979,p=.058), and organic *price conditions (t=2.504,p=.019).

Table 6: Pairwise comparison of Sustainability evaluation (Paired sample t tests)

Condition	Mean 1	Mean 2	Df (1-2)	T	p
1	Napolina	Signature	-.38	-1.298	.209
1	Napolina	Barilla	-.51	-1.421	.168
1[x]	Barilla	Signature	-.042	-.095	.925
2	Napolina	Signature	.89	3.326	.003
2	Napolina	Barilla	.81	1.979	.058
2[x]	Barilla	Signature	.17*	.407	.686
3	Napolina	Signature	.93	3.360	.002
3	Napolina	Barilla	.66	2.504	.019
3[x]	Barilla	Signature	.22	.667	.508

*Equal variances not assumed
[x] Independent t-test

Results, displayed in Table 7, show that also the difference in mean overall attitude between Napolina and Signature, and Napolina and Barilla are significant. The difference in overall attitude between Napolina and Signature is significantly higher in both organic (t=3.058, p=.006), and organic*price conditions (t=3.061, p=.005). Also, the difference in overall attitude between Napolina and Barilla is significantly higher in both organic (t=1.984, p=.057), and organic*price conditions (t=3.287, p=.003). Although the difference in overall attitude score

between Napolina and Signature is significant also in the control group (t=3234, p=.004), the difference is higher in both experimental conditions. This suggests that there is an effect of the manipulation.

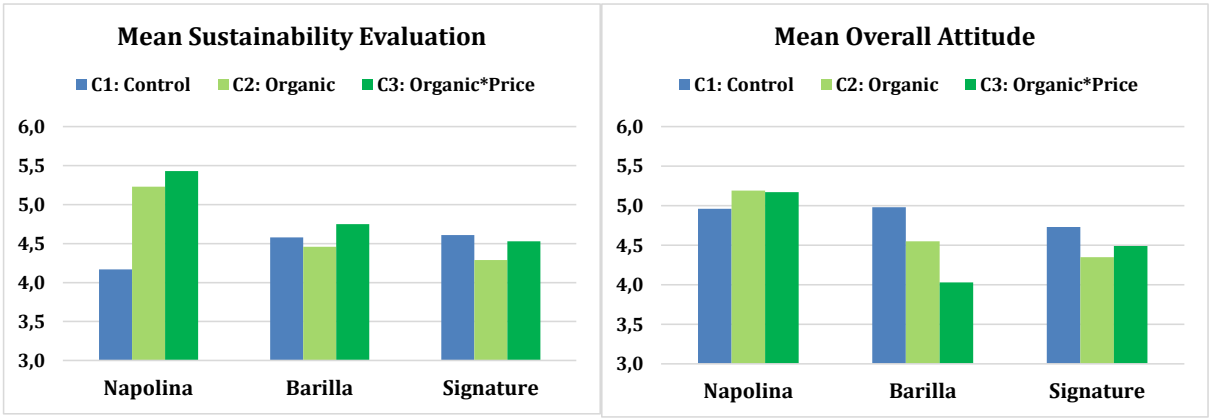
Table7: Pairwise comparison of Overall attitude score (Paired sample t tests)

Condition	Mean 1	Mean 2	Df (1-2)	T	p
1	Napolina	Signature	.51	3.234	.004
1	Napolina	Barilla	-.26	-.865	.396
1 [x]	Barilla	Signature	.26	.886	.380
2	Napolina	Signature	.78	3.058	.006
2	Napolina	Barilla	.69	1.984	.057
2 [x]	Barilla	Signature	.20	.583	.563
3	Napolina	Signature	.64	3.061	.005
3	Napolina	Barilla	.73	3.287	.003
3 [x]	Barilla	Signature	.01	.038	.970

[x] Independent t-test

Even though the results are significant for both sustainability perception and overall attitude, negative between-product spillover effect to the mainstream product is supported only for overall attitude (H4b). From the Figure 6 can be observed, that the while sustainability evaluation of the organic product significantly increased when the label was present, the evaluation of mainstream products sustainability barely changes (Table 4). The difference between sustainable and mainstream products in sustainability attribute evaluation is therefore given by the significant increase of the target product, after the introduction of the label. The presence of a sustainable brand therefore does not decrease social and environmental performance of the mainstream brands. Hypothesis H4a was therefore not supported.

Figure 6: Development of the mean scores for overall attitude, and evaluation of sustainability attribute



Attention effects

In hypothesis H5, we emphasized, that the activation of priming and spillover effects in the purchase situation, given by the presence of a sustainable attribute, is conditioned by the attention to the sustainable label/name. To test the hypothesis H5, we proceeded in 2 steps. First, the attention to the assortment AOI, to the product AOIs, and to the specific product elements AOIs was compared between experimental groups. Results of the one way ANOVA show, that the attention to the assortment AOI, in terms of total number of fixations, and total fixation duration did not significantly differ across the groups (Table 3). Similarly, attention to the product AOIs (Napolina, Barilla, and Signature) did not significantly change after the introduction of the sustainable label in the assortment (Table 3). The attention to the specific product elements (price, brand, label) was compared in 2x3x3 two way ANOVA mixed design, Product brands; Napolina, Barilla, and Signature were treated as a within-subject factor, and conditions; Control, Organic, and Organic*Price as a between-subject factor. Results of this analysis are displayed in Table 8. We can observe from the table, that the attention proportion to all Brand, Price, and Label AOIs is significantly different among the three products. The effect of condition was only significant in case of the Label AOIs, Results in Table 8 further show significant interaction effect of Product*Condition ($F=3.926$, $p=.020$, partial $\eta^2=.048$). This is because the sustainable label was present only on Napolina penne, hence the attention proportion of the label AOI changed only with respect to this product (Appendix 11).

Table 8: The Attention Effect; Results Two way ANOVA mixed design Local AOIs

Local AOI	Main effect	F	P-value	Partial η2
Brand	Product	46.496	.000	.235
	Product*Condition	.977	.415	.013
	Condition	.104	.902	.001
Price	Product	32.956	.000	.176
	Product*Condition	1.516	.208	.019
	Condition	.408	.666	.005
Label	Product	17.400	.000	.100
	Product*Condition	3.926	.020	.048
	Condition	5.453	.005	.065

Second, all participants from the group "*Organic*" (n=17) and "*Organic*Price*" (n=23), who paid attention to the sustainable label (fixated Label AOI of Napolina for longer than 80 ms) were put together into one group "*detected*" (n=40). All other respondents from previous groups, who either did not notice the label ("*Organic*", and "*Organic*Price*" groups), or the label was absent ("*Control*" group) were put in the group "*not detected*" (n=117). The group "*detected*" was compared against the group "*not detected*" for to assess the difference in attention effects

between the two. Results of this analysis, shown in the Table 9. As we can observe from the table, the detection of the sustainable cue (Label AOI of Napolina), caused several statistically significant attention effects with respect to the sustainable product (Napolina), and overall assortment. The fact that these attention effects occur only when a sustainable label is noticed, supports hypothesis H5. The activation of priming and spillover effects in terms of changes in the visual search of the consumer, given by the presence of a sustainable attribute, is conditioned by the attention to the sustainable label/name.

We suggested, that the attention to a sustainable label/alternative might create several attention effects. The attention effects, as proposed in hypotheses in H6 and H7, may occur with respect to the AOIs of three different types; attention to the overall product assortment AOI (H7a), attention to the overall specific product AOIs (H6b), and attention to the specific product elements – price AOIs, and label AOIs (H6a, H7b, H7c). Specific hypothesis are answered further with respect to which AOI they refer to.

Attention to the assortment

In H7a we proposed that the attention to the sustainable label, might stimulate more attention to the whole product assortment. Mean total number of fixation and mean total fixation duration were, therefore, expected to increase compared to the control group. To test the hypothesis H7a total number of fixations and mean total fixation duration in the group "detected" were compared against the group "not detected". Results of the analysis, shown in the Table 9, reveal that the attention to the overall assortment AOI was significantly higher for the respondents who noticed sustainable label, both in terms of total number or fixations (t=-4.119, p=.000), and total fixation duration (t=-4.157, p=.000). When consumers notice the sustainable label, in average they make 22 fixations more, and their fixation duration is longer by 7005 ms. These results bring evidence in support of the H7a. The attention to the sustainable label increased the attention to the overall product set.

Attention to product AOIs

Hypothesis H6a suggested, that the attention to the sustainable label will increase overall attention consumers pay to the product. To test hypothesis H6c, mean attention proportion to the Napolina AOI in the group "Detected" was compared against the group "Not detected". Results of the analysis, displayed in the Table 9, show that respondents who noticed the sustainable label paid significantly more attention to the Napolina penne AOI, than those who did not (t=-4.957, p=.000). The attention proportion dedicated to Barilla and Signature did not change in response to the detection of the sustainable label. This supports hypothesis H6a.

Table 9: Results: The effects of detection of sustainable cue on Attention

Concept		C1:Not Detected (n=117)	C2: Detected (n=40)	Difference (C1-C2)	t/χ^2	p-value	df
TOTAL NUMBER OF FIXATIONS							
Mean		**52**	**74**	-22	-4.119	.000	154
Std. Deviation		28	30				
TOTAL FIXATION DURATION [in ms]							
Mean		**14467.1**	**21472.6**	-7005.6	-4.157	.000	153
Std. Deviation		8512.2	10590.2				
RELATIVE ATTENTION TO PRODUCT AOI [in %]							
Napolina	Mean	**13.6**	**21.5**	-8	-4.957	.000	152
	Std. Deviation	7.8	10.7				
Barilla	Mean	**11.8**	**10.5**	1.3	.963	.337	151
	Std. Deviation	7.7	5.8				
Signature	Mean	**8.4**	**8.1**	.3	.355	.723	152
	Std. Deviation	4.5	4.0				
RELATIVE ATTENTION TO BRAND AOIs [in %]							
Napolina	Mean	**1.91**	**1.99**	**-.08**	**-.162**	**.871**	**151**
	Std.Deviation	2.66	2.65				
Barilla	Mean	**.46**	**.32**	**.13**	**.721**	**.472**	**150**
	Std. Deviation	1.12	.64				
Signature	Mean	**3.05**	**2.96**	**.09**	**.181**	**.857**	**152**
	Std. Deviation	2.72	2.43				
RELATIVE ATTENTION TO PRICE AOIs [in %]							
Napolina	Mean	**2.48**	**3.50**	**-1.02**	**-2.223**	**.028**	**154**
	Std. Deviation	2.38	2.80				
Barilla	Mean	**1.18**	**1.12**	**.06**	**.199**	**.842**	**153**
	Std. Deviation	1.56	1.45				
Signature	Mean	**1.01**	**.84**	**.17**	**.680**	**.498**	**151**
	Std. Deviation	1.44	1.14				
RESPONDENTS WHO FIXATED [in %]							
Brand	*Napolina*	53	65	-12	-1.745	.187	157
	Barilla	25.6	27.5	-2.1	-.053	.817	157
	Signature	72.6	74.5	-2.1	-.848	.357	157
Price	*Napolina*	73.5	95	-21.5	-8.297	.004	157
	*Barilla**	53	57.5	-4.5	-.244	.621	157
	Signature	44.4	47.5	-3.2	-.112	.737	157
Label	*Barilla**	3.4	2.5	.9	.082	.623	157
	*Signature**	0.9	1.3	-.4	-.642	.423	157

* More than 5% of the cells have expected count less than 5. Fisher´s exact *p* reported

Attention to the product element AOIs

Since sustainable products are often associated with higher price, we proposed that noticing of the sustainable label, might stimulate consumer's attention to the price of the sustainable product (H6a), and enhance price related comparison (H7c). This would suggest, that the attention proportion to the Price AOIs of Napolina, and other brands might increase, when

consumers notice the sustainable label. To test the hypotheses, the attention proportion in terms of the fixation duration and percentage of respondents who fixated the price AOIs for Napolina, Barilla, and Signature penne were compared between the groups "Detected" and "Not detected". Results of the analysis, displayed in the Table 9, show that respondents who noticed the sustainable label paid significantly more attention to the price AOI of Napolina penne, than those who did not (t=-2.223, p=.028). The mean relative attention to the price AOI of Napolina was higher by almost 3% among the participants, who detected the sustainable label (Table 9). Moreover, respondents who noticed the sustainable label were more likely to notice the price AOI of Napolina (t=-8.297, p=.004), as 95% of the participants who noticed the sustainable label fixated the price of the product, compared to the 73.5% in the "Not detected" group. In line with H6a, the attention to the sustainable label stimulated more attention to the price of the sustainable product. The results for the mainstream products Barilla, and Signature, however, show that the attention proportion to the price AOIs were not significantly different between the "Detected" and "Not Detected" groups (Table 9). Hypothesis H7c was therefore not supported.

In H7b we put forward that, the attention to the sustainable label, might stimulate search for a label on other products in the assortment. To test the hypothesis H7b the attention proportion to the label area AOI, and the percentage of respondents who fixated on the label area AOI of Barilla and Signature penne, were compared between respondents, who notice the label and those, who did not. The results of the analysis are depicted in the Table 9. We can read from the table, that the relative attention to the label area AOIs of the both products did not differ between the "Detected" and "Not detected" groups. The hypothesis H7b, is therefore not supported.

The effects on choice and preference

In H8 we proposed, that the rational priming and spillover effects, caused by the addition of a sustainable attribute to the product, will positively affect consumer preferences. Preference for Napolina was therefore expected to be higher, when a sustainable label is present (Organic and Organic *Price condition), than when it is absent (Control group). To test the hypothesis, mean preference scores were compared among the groups. Results of the analysis, accessible in the Table 2, do not show any effect on consumers' preferences, as the preference for Napolina reached roughly the same values in all the three groups (F=.004, p=.996). Mean preference scores were, however, significantly higher for those participants, who have paid attention to the label (T=-5.534, p=.000), as can be seen in Table 10. While Napolina penne rigate were allocated with 9% of the preference points when the sustainable label was not present or noticed, when the sustainable label was detected, mean preference for Napolina penne accounted for 19.4%. This brings partial support for our hypothesis H8. The addition of a sustainable attribute

increased preference for the product only when sustainable label had been paid attention to, when consumers were making their choices.

Table 10: Results: The effect of detection on sustainable cue on Choice and Preference

Concept	C1: Not Detected (n=117)		C2: Detected (n=40)		χ^2/t	p-value
CHOICE [in n and %]						
Tesco	33	28%	6	15%	2.784	.095
Napolina	7	6%	15	37.5%	24.574	.000
Garofalo GF*	3	3%	2	5%	.574	.602
De Cecco*	10	8%	3	7.5%	.043	.377
Signature*	2	2%	0	0%	.693	.554
Cook Italian	26	22%	8	20%	.087	.768
Barilla	14	12%	3	7.5%	.616	.433
Tesco Quality	22	19%	3	7.5%	2.845	.092
MEAN DECISION TIME [in ms]						
Mean	**17342.94**		**25326.76**		3.143	.078
Std. Deviation	10047.92		11771.65			
CHOICE MOTIVATION [in n]						
Package Design	66		21		.184	.668
Perceived Value	42		9		2.440	.118
Cheap	30		6		1.910	.167
Familiarity	18		3		1.599	.206
Sustainability*	2		12		29.374	.000
Healthy*	7		5		1.794	.184
Pasta Appearance	6		3		.310	.694
Quality	7		1		.784	.681
Tasty	5		1		.255	1.000
Others	2		4		5.574	.037
MEAN PREFERENCE [in %]						
Tesco	19.2		15.6		1.261	.209
Napolina	9.0		19.4		-5.534	.000
Garofalo GF	6.5		9.5		-1.918	.057
De Cecco	7.3		5.8		.899	.370
Signature	6.9		8.2		-.902	.368
Cook Italian	15.1		15.4		-.137	.892
Barilla	12.45		9.0		1.494	.137
Tesco Quality	14.9		9.9		1.619	.108

* More than 20% of the cells have expected count less than 5. 1-tailed Fisher's exact p-value was reported.

In hypothesis H9a we suggested, that the positive impact of rational priming and spillover effects on consumers' choice for the sustainable product will be moderated by the attention to the sustainable label. To test the hypothesis, first choice scores were compared between experimental groups. Results of the comparison, displayed in Table 2, show that the choice for Napolina increased after the addition of the sustainable label to 17% in the organic condition, and to 13% in the condition organic*price, compared to the 11% obtained in the control group. The difference in mean scores, was however not statistically significant (F=.942, p=.625). Consequently respondents who visually detected the presence of a sustainable label were

compared against those who did not. Results of the analysis are shown in the Table 10. From the table can be observed, that when a sustainable label was noticed, 37.5% of the respondents chose Napolina penne. Only 6% of the respondents who did not see the sustainable label chose the product. The probability of a product to be chosen was therefore significantly higher for the participants who noticed the sustainable label (t=24.574, p=.000). In line with hypothesis H9a, results of these analysis show, that the effect of addition of the sustainable cue to a product on choice is moderated by the attention to the sustainable label.

Hypothesis H9b further extended, that the positive impact of rational priming and spillover effects on consumers' choice for the sustainable product will be further moderated by the price of the product. Results of the comparison between experimental conditions (Table 2) show, that when Napolina was introduced with the price premium, it´s likelihood to be chosen decreased by 3% compared to the situation when it was introduced by an average price. The difference in the likelihood of the product to be chosen between experimental groups was however, not significant. Only a small portion of the population noticed the label. The difference in choice for the sustainable product between the situation when it is introduced at the average price, and premium price for the consumers who noticed the label, therefore could not be assessed, due to the limited sample size. The results of the comparison between participants who fixated the organic label and those who did not show, that the likelihood of a product to be chosen increase by more than 30% when the label is detected. This occurs regardless the price of the product. Considering results of both analysis, we conclude that price of the product is not an important mediator of the positive impact of spillover and priming effects on choice for the sustainable product (H9b).

Discussion

The aim of this paper was to investigate the impact of the introduction of a sustainable brand on consumers´ choice, and preference in the pasta category, by investigating the underlying mechanism behind the phenomena of spillover effects in the context of the attitude formation, and assessing to what extent these effects are activated in consumers´ attention to the assortment in the purchase situation". To fulfil this aim, we combined existing theories on attitudes, comparative judgment, attention, and decision making into a new theoretical framework. This framework was applied on the case of introduction of an organic product into the pasta category. In nine hypotheses we proposed, which priming, spillover, and attention effects may occur in response to the addition of a sustainable brand, and how they might affect consumers decision making. Summary of the findings of the specific hypotheses is displayed in Table 11. In the Discussion section, we firstly summarize the most important findings on the target and competing products. Methodological, theoretical, and practical implications of the findings of this study are discussed at the end of the chapter.

Table 11: Summary of the findings

Hypothesis number		Concept	Subject	Expected relationship	Concusion
H1	**a**	Evaluation of sustainability	Napolina	increase	Supported
	b	Determinance of sustainability		increase	Supported
H2		Relevance of sustainability	Category purchase	increase	Partially supported
H3	**a**	Health	Napolina	increase	Supported
	b	Taste		increase	Not supported
H4	**a**	Evaluation of sustainability	Barilla, Signature	decrease	Not supported
	b	Overall attitude		decrease	Supported
H5		Attention to label AOI	Napolina	increase	Supported
H6	**a**	Attention to price AOI	Napolina	increase	Supported
	b	Attention to product AOI		increase	Supported
H7	**a**	Attention to the assortment AOI	Barilla, Signature	increase	Supported
	b	Attention to the price AOI		increase	Not supported
	c	Attention to the label AOI		increase	Not supported
H8		Preference	Napolina	increase	Partially supported
H9	**a**	Choice (attention to Label AOI)	Napolina	increase	Supported
	b	Choice (price)		increase	Not supported

The effects the presence of a sustainable label on the target product

Findings of this study reveal that the introduction of an organic label to the pasta product heavily affected consumers´ rational evaluation of the product. The addition of a sustainable/organic attribute to a product activated the concept of the sustainability through both, higher product evaluation on sustainable attribute (H1a), and higher determinance of this

attribute in overall attitude formation towards the product (H1b). We identified these effects as direct (priming) effects of the addition of a sustainable attribute in consumers´ attitude formation. Furthermore, the presence of sustainable attribute positively affected the evaluation of health attribute of the product (H3a). This consequence of adding a sustainable attribute to a product, was recognized as the positive between-product spillover effect. The expectations that sustainable qualities of the product might also increase the taste perception of the product, were not supported (H3b). This might have been caused by the specific characteristic given by the pasta product category. Since pasta is a processed, shelf product, there is no direct attachment to the field, where the wheat for the pasta is produced. In other words, it might have been hard for consumers to imagine, that the pasta they buy was once wheat, and that the pesticides or fertilizers used in the production of wheat would or would not affect taste qualities of the pasta. Studies involving the perception of fresh products, such as fruits, vegetable, or meat, show, that the possession of an organic attribute increases taste evaluation of the product (Marian, 2014; Grunert, et al., 2004). It is therefore possible, that the taste evaluation of organic product is higher only for the fresh products.

Despite the strong impact of the presence of a sustainable attribute on formation of the rational attitude towards the product, the impact of this action on automatic attitude formation was moderate. Findings of this study suggest, that only about 33%-38% of the participants notice the sustainable label/name when making their choice decisions at the POP. The vast majority of the participants, did not notice the sustainable label, which was the only source of information about the sustainability (H5). The overall effects of the introduction of a sustainable attribute on automatic attitude formation towards the product, only showed up through attention to the label (fixation duration and percentage of respondents who fixated on label), and price of the sustainable product (increase in percentage of respondents who fixated on price). Participants who noticed the sustainable label showed different results for attention to the target product, and to the whole assortment, than those who did not. Those, who saw the sustainable label, paid more attention to the price of the sustainable product in terms of both, longer mean fixation duration, and higher shares of participants who noticed the price (H6a). When consumers noticed the sustainable label, they also paid more attention to the sustainable product (H6b).

The effects of the introduction of a sustainable product in the category

The introduction of a sustainable label did not only affect the formation of the attitude towards the sustainable product itself. The introduction of a sustainable label lead to the negative between-product spillover effects in terms of competitive advantage of the mainstream products against the sustainable product on overall attitude (H4b). The negative spillover to the sustainability evaluation of the mainstream products was not supported. Against our

expectations, the relevance of the sustainability in the category purchase did not increase after the introduction of the sustainable label in the assortment (H2). Surprisingly, the relevance of the sustainability was significantly lower when a sustainable product was introduced by an average price, than when introduced by premium price. Because sustainable products are almost exclusively sold by higher prices (Marian, 2014), the fact that the sustainable product was introduced at "unrealistic" average price might have been behind this effect. In other words, organic product offered by an average price might have seem so unusual to consumers that the whole sustainable attribute in the category seemed unrealistic to them. Consequently, sustainable attribute might have been evaluated as irrelevant for the category purchase.

When consumers noticed the sustainable label, their attention to the overall product assortment significantly increased in terms of more fixations made and longer total fixation durations (H7a). This, however, did not stimulate search for labels (H7b), or price related comparison (H7c) with respect to other two products used for the comparison.

The effects of introduction of a sustainable label on choice and preference for the product

Although consumers´ showed to make positive direct and indirect associations with respect to the sustainable product, these processes were not always translated into consumers´ decision outcome. Attention to the sustainability differentiator (sustainable label/name) was found to be an important bottleneck in activation of these processes in the purchase situation (H3). This was accordingly reflected into consumers´ decision making. The mere presence of a sustainable label/name in the product assortment overall only fractionally increased the choice for the product. When a sustainable label/name was noticed, the likelihood of a product to be chosen substantially increased (H9a). Although the choice for a sustainable product was slightly lower when a price premium was imposed to a product, as appointed before, the overall effects of the presence of the sustainable label on choice were not significantly different (H9b). Due to the small proportion of the respondents who noticed the sustainable label, the impact of the higher price on the choice of the sustainable product on those who noticed the label could not be accurately assessed. For participants who noticed the label, however, the choice of the sustainable product significantly increased notwithstanding the price of the product. It should also be noted, that consumers were aware of the actual price of the sustainable product when making their choice decisions, as the vast majority of them paid attention to the price of the product, when a sustainable label was noticed.

Differently from choices, preferences for a target product did not experience any changes after the addition of an organic label at the condition level (H8). Preferences for sustainable product

increased only for participants who noticed the sustainable label, when making their choice decisions. Overall, the effect of the presence of a sustainable label was stronger for the choice, than for preference for the sustainable product. Due to the several methodological implications related to the measurement of consumers´ preferences (more in the section Methodological implications), results of this study for the brand preference are questionable.

The impact of priming and positive spillover effects occurring with respect to the sustainable product on choice can be explained in terms of attention to the sustainable label. However, no conclusions can be made about the impact of negative spillover effects occurring with respect to the mainstream products on choice. Although consumers´ attention to the overall product increased, when the sustainable label was noticed, no effects in terms of attention to the specific products within the assortment were found in the frame of this study. It might be argued, that increase in attention to the overall assortment was caused by higher attention dedicated to the target product. This is, however, not the case, as the relative attention to the target product increased by roughly 8% when a sustainable label was noticed, while attention to the overall assortment increased by almost 50% in such instances. Some attention effects stemming from the negative spillovers on the perception of mainstream products must have occurred.

Methodological implications

Experimental design used in this study was developed based on the methodology applied in current marketing and consumer behaviour research. Results of the study are mostly consistent with existing literature, as well as with the theoretical propositions made in this paper. Combining eye tracking with the visual search and choice paradigm, in line with Bialkova & van Trijp´s approach (2011) proved to be a good tool to assess, the impact of the introduction of a sustainable label in the product category on consumers´ choice for the product. The scenario and stimuli used in this study managed to evoke the feeling of a real purchase situation quite authentically. This we because several participants spontaneously mentioned that they felt pressure to make their decisions quickly during the measurement.

The questionnaire items and scales used to measure concepts of product attributes, overall attitude, and relevance, were developed based on methodologies used in current marketing and consumer behaviour practice, therefore they should have high content validity. The results of this study are consistent with exiting findings on the topic, and measured concepts develops in the proposed direction. This implies high criterion validity of the scales used in the questionnaire. The statistical analysis also showed solid content validity and reliability of the questionnaire items. The questionnaire applied in this study, could therefore be used for measuring perception of the pasta products in the future research.

Our results on preference do not correspond with the theoretical propositions made in this study, and they also contradict with existing research on consumers´ brand preference (e.g., Bass, et al.. 1972). Several indicators suggest that this might be due to the methodology to assess preference used in this study. First, participants often made mistakes in the point's distribution task, which suggest that our methodology was too complicated. Second, the number of the products used in the stimuli assortment might have been too high. To distribute 100 points among 8 products required too much time and effort, which might have caused boredom for the participants. Distributing points among for example 6 products might have shown better results. Bass, et al., (1972) suggest, that the attitude in terms of Fishbein´s (1974) model is a good predictor of consumers´ preference for a particular brand, as measured by the direct product ranking. The use of other method to measure preference, such as direct ranking method might, therefore, have been more appropriate to assess this concept.

Although the methodology used in this study, enabled to assess the existence of the negative spillover effects at the level of the rational attitude towards mainstream products, representation of this phenomenon in consumers´ attention to these products was not found. This might have happened for one of the following reasons. First, the two products used for the comparison, were, differently from the target product, placed in the bottom row of the assortment. All mean results for attention to these products were much lower than for the target product. Some of the proposed effects might have occurred with respect to the products in the top row of the assortment. These effects were however not tested in this study. Second, the search for the label on other products was measured by attention dedicated to one specific spot on the products (see Figure 5). We tried to create the feeling, that this is the spot, where should be label, by putting the two labels present in the assortment (sustainable and glutten free) exactly on this spot of the particular product. However, participants still might have looked for the label on other parts of the products, which was impossible to detect by the methodology applied in this research.

Theoretical implications

In order to assess the perception of organic qualities given by the introduction of the sustainable brand in the product category we combined theories on attitudes, comparative judgment, spillover effects, attention and decision making into a new theoretical framework. Several implications for these theories might be derived from the conceptual framework proposed by this paper. Such implications are a subject of this chapter.

Theories on spillover effects and comparative judgment

Findings of this study provide additional evidence in support of the existence of negative spillover effects stemming from the presence of sustainable products to the perception of conventional (mainstream) products. Our results suggest, that this phenomena does not occur only in the coffee product category, as found in the previous studies (Anagnostou, et al., 2015), but it can occur also in other sectors, such as pasta. Furthermore, linking the existing theories on spillover effects together with theories on attitudes enabled us to (a) better understand the underlying mechanism behind the negative spillover effects given by the presence of sustainable alternative, (b) identify new positive spillover effect to the health attribute of the sustainable product, and (c) assess, the extent to which the identified spillover effects affect consumers´ behavioural outcome.

The negative spillover effects were identified in terms of competitive advantage on overall attitude. The competitive advantage on overall attitude was rather driven by the change in attitudes towards mainstream products. This is because the overall attitude towards a sustainable product only slightly increased after the addition of the sustainable attribute, while the decrease in attitude towards mainstream products was much stronger (Figure 6). These results correspond to the existing knowledge on spillover effects, suggesting, that spillover effects explain larger variance in attitude change than directly addressed message (Ahluwalia, et al., 2001). Conversely to the development in overall attitude, the comparative advantage on sustainability attribute evaluation was rather driven by the change on the sustainable product (Figure 6) The evaluation of a sustainable attribute of organic product was significantly higher after addition of a sustainable label. However, the evaluation of this attribute for Barilla and Signature penne roughly show any changes after a sustainable label was added to the product category. This is in contrast with previous research, suggesting that changes in attribute beliefs are to a larger extent affected by the negative, rather than positive information (Herr, et al., 1991), and that the detection of a missing information, might lead to the discounting effects in evaluation on this attribute (Kardes, et al., 2004). Another explanation might be, that the evaluation of this attribute was derived not from the sustainable product (product on which the label is present), but with respect to standard for the whole category (no label). In other words, while organic product was evaluated as better than standard, mainstream products were evaluated as neutral, or corresponding to the category standard. This suggests that participants did not chose sustainable product as a new standard of comparison on this dimension.

Theories on attitudes

The Conceptual model on attitude formation processes, proposed by this paper, extends the knowledge on attitudes in two aspects. First, by combining existing theories on singular and

comparative judgment, it shows how a target product may be judged in isolation, and with respect to competing products. Second, by combining the APE model (Gawronski & Bodenhausen, 2006) with model on perceived quality, it shows how attitudes are rooted in the physical environment. This brings formation/activation of rather abstract attitudes closer to the real purchase situation, where most of the decision making is made. The 2x2 theoretical framework on attitude formation enables to efficiently assess the role of rational and automatic evaluative judgments in consumers´ decision making at the POP. Rational information processing rather express possible changes that may occur after an addition of a new attributes to a product alone, and with respect to other products ($A_{Rational} = \sum_i^n B_{ij}\, e_{ij}$; B_{ij} = evaluation of product attribute). Automatic information processing reflects the extent to which this change might be activated in the real purchase situation ($A_j = \sum_i^n B_{ij}\, e_{ij}$; B_{ij}=attention to product cue). Consistently with (Bialkova & van Trijp, 2011), we found out that the attention to the specific features of the product/competing products in the assortment is an important mediator in formation/activation of an attitude at the POP and its further impact in decision making. These findings are in line with existing eye tracking studies, concluding that the attention to the specific stimuli represents an important bottleneck in further information processing at the point of purchase (Bialkova & van Trijp, 2011).Results of this study suggest that in order to understand the real impact of an attitude change on consumers´ decision making, it is necessary to assess the attention to the cues, which originate such change, and which are basis for an implicit attitude.

Theories on organic products

In line with previous research on organic products, findings of this study suggest, that organic products are perceived as better in terms of social and environmental performance, and healthier than conventional products (Marian, 2014; Blair, 2012). Even though these benefits add value to consumers, which results in higher preference and choice share of the product, our results suggest, that these benefits are often dismissed in the purchase situation, as most of the consumers does not pay attention to the organic label in the complex shopping environment.

Considering the multidimensional character of the attribute importance (van Ittersum, et al., 2004), the methodology used in this paper enabled to assess all dimensions of the importance of organic attribute in attitude formation (van Ittersum, et al., 2004). First, if organic product is introduced at the premium price, the relevance of sustainability in the product purchase increases from “neutral” to “rather important”. This made sustainability equally relevant in the category purchase to the taste and health attributes. Second, once present, organic attribute becomes significantly determinant predictor for an attitude towards sustainable product, as well as mainstream products. In attitude formation towards sustainable product, sustainability

becomes the predictor with highest predictive power. Third, salience of the organic attribute can be understood in terms of detection of the sustainable label in the purchase situation. Only 33%-38% of the sample population noticed the sustainable label. This suggest, that the organic attribute is less important in the purchase situation, because for most of the consumers it is not salient.

In the current research on the perception of organic products, price is reported to be the most important barrier to purchase organic products (Marian, 2014). Although the share of the consumers who chose sustainable product was overall lower, when introduced with a price premium, for the respondents who noticed the sustainable it was the most often chosen and most preferred product in the assortment. This occurred without considering the differences in price of the organic product. Our findings therefore suggest that it is rather the salience/visibility of the organic attribute in the purchase situation, what explains that positive attitudes towards organic products are often not translated into consumers´ purchase of organic products.

Practical implications

Findings of this study provide several practical implications for producers and marketers of organic products, pasta products, and policy makers. The applicability of these findings on other product categories is discussed at the end of this chapter.

Organic producers

The attention to the organic label was found to be the most important barrier to purchase organic products. When consumers realize a product possesses some sustainable qualities, they are more likely to choose it in the purchase situation. Hence producers of organic products should make the sustainable qualities of the product more salient in the retail context. Producers can barely make any changes with the visibility of the organic label itself, as its form is given by the EU legislation (EC (2016); Regulation n. 271/2010 of 24 March 2010). Despite that, they can try to improve the placement of the label in the product packaging, such as place it at the front part of the packaging etc. Producers should moreover focus on implementing/enhancing the visibility of the claim “Organic” in the name of the product. Placing the “Organic” claim in the different part of the packaging than the organic label, may further increase the likelihood, that the sustainability information will be accessed. More in store promotion of the organic attribute at the point of purchase, in the forms of flyers, banners, etc., could also bring more attention to the sustainable qualities of the product. The decrease in overall attitude towards conventional products was stronger than increase in attitude towards the sustainable product, after the introduction of an organic label. Marketing communication of organic products should therefore

focus on the contrast between the two production methods, to make the consumer compare organic product against conventionally produced food.

Policy makers

The labelling system of organic products is under the direct control of the EU legislation. The fact, that the visibility of the European organic production label was found to be low in the purchase situation, therefore possess some implications and challenges for the European policy makers. First, the visibility of the organic label could be improved by increasing the size of the label. Second, consumers´ attention to the stimulus is next to the stimulus visibility given by the consumers´ existing memory. Higher promotion of the European organic label as the guaranteed proof and sign of recognition for all organic products, within the European Union might bring the visual form of the label into consumers´ memory, which might make consumers´ to implicitly look for such label in the purchase situation. Third, organic production and its labelling system is not a new concept at the market, hence consumers´ should be relatively familiar with these products. However, there are far more new labels guaranteeing some form of sustainable properties of the products such as the label "Compostable", etc. If the visibility of the organic label, which has a years of the tradition on the market is still relatively low, what is the visibility of these new labels in the purchase situation, or at all? This implies that European policy makers should focus on higher promotion of the sustainable labels with the aim to increase the awareness of consumers about sustainable qualities of available products.

Pasta Producers

The most frequent motivation to purchase some specific brand of pasta was found to be the packaging design. This contradicts with the results of the existing research on pasta, stating that packaging is not an important cue in the quality perception of pasta (Krutulyte, et al., 2009, Cavallo, et al., 2014). The two most popular brands in terms of choice share had packaging consisting of natural colors (such as blue, and green), or natural elements (tomatoes, and leaves), directly associated with the product use or dominant country of origin (Italian flag). Including some of these elements in the current packaging design in the pasta category might improve overall first impression from the product. Other most important stated choice motivation further included perceived value, cheap properties of the product, and familiarity with the brand. Once sustainable attribute was introduced to the pasta category, sustainability became one of the five most often mentioned choice motivation. Mainly for these reasons, consumers mostly preferred products; Tesco penne (1st,1st,1st), Cook Italian (2nd. 1st, 2nd), and Tesco Quality Penne (3rd, 1st,4th). Sustainable product scored as 3rd in the situation, when organic Napolina was introduced by the premium price, and thus moved up in the ranking at the expense of the cheapest product in the assortment Tesco value penne. This might have also been

caused by the fact, that introducing Napolina penne at higher price might have increased the perceived price level in the product category. It is interesting to note, that the fact that Barilla penne, as the only brand in the category, sells product in the paper box did not appear to affect perception of the product sustainability.

Results of our study suggest, that adding attribute in the pasta sector adds a criteria for choice decisions in the purchase situation. Despite the fact, that the likelihood of a sustainable product to be chosen significantly increased only for the limited fraction of the sample population, participants were exposed to the assortment of mostly unfamiliar brands, and only once. In the supermarket, consumers are exposed to the products repeatedly. The likelihood of a sustainable label to be attended, leading to the higher likelihood of a sustainable product to be chosen, might eventually increase due to the repeated exposure to the assortment. From the long term, the differentiation through sustainable attribute category therefore seems to be a feasible strategy to generate consumers´ choice for the product in the pasta category.

Application to other categories

The impact of the differentiation through organic attribute on consumers´ choices was assessed for the category of pasta; a low involvement, processed, shelf product, consumed by the consumer very often. Because sustainable labels in this sector are not yet that widespread, compared to for example coffee sector, results of this study might be applicable to the product categories with similar product characteristics, such as cereals, canned products etc. Because pasta is a processed product, the attachment to the product origin is too abstract, which might have been the reason why organic product properties did not spill over the taste properties of the product. In categories of fresh products, such as fruit, vegetable, or meet, organic product properties might, next to the effects found in this study, also increase the perception of the taste evaluation of the product.

Conclusions

The aim of this paper was to investigate the impact of the introduction of a sustainable brand on consumers´ choice, and preference in the pasta category, by investigating the underlying mechanism behind the phenomena of spillover effects in the context of the attitude formation, and assessing to what extent these effects are activated in consumers´ attention to the assortment in the purchase situation". To fulfil this aim, we combined existing theories on attitudes, comparative judgment, attention, and decision making into a new theoretical framework (*Conceptual model on attitude formation processes and their impact on choice and preference*). This framework was applied on the case of introduction of an organic product into the pasta category. In nine hypotheses we proposed, which priming, spillover, and attention effects may occur in response to the addition of a sustainable brand (*The model on effects of the presence of sustainable alternative on information processing),* and how they might affect consumers decision making (*The model on impact of spillover and priming effects on choice and preference*). Specific hypotheses developed to assess the relationships among the concepts include in these models were tested in a set of statistical analysis.

Findings of this study brings some valuable insights on how the introduction of a sustainable brand in the product assortment affects consumers´ perception of the sustainable product, and how this translates into consumers´ choice for the product. We found, that sustainable product performs better on social and environmental qualities, and it is perceived as healthier. Although overall attitude towards the sustainable product was not substantially higher, the presence of sustainable attribute provided the product with significant competitive advantage. While undifferentiated product was perceived as similar to competing products, sustainable product was perceived as better on social and environmental performance, as well as on the overall attitude. Although our evidence is not very strong, price premium does not appear to be an important barrier to purchase organic products. Attention to the sustainable label was, however, found to be an important bottleneck in activation of associations with respect to sustainability qualities in the purchase situation, as only about 33%-38% of the consumers paid attention to the label when making their shopping decisions. When consumers realize, that the sustainable alternative is present, they are more likely to choose and prefer the sustainable product. Despite the contribution of this study in revealing the effects of the introduction of a sustainable alternative on the target product, we only marginally assessed the impact of this action on conventional products. Especially, the representation of the spillover effects in consumers´ attention to the assortment shall be investigated further. Results of this study provide several important implications for researchers, producers, and policy makers.

Recommendations for further research

Although the findings of this study revealed how the perception and choice for a product changes in response to the introduction of a sustainable attribute, the effects on preference for the product shall be investigated further. Earlier in this paper, we concluded, that the methodology to measure preference used in this study was not appropriate for our case. This prevented us from making an appropriate conclusion about the impact of the introduction of a sustainable attribute on preference for the product, and to properly assess what is the link between rational attitudes and brand preference. Hence, further research involving different methods to measure consumers´ brand preference is needed. The point allocation method (Doyle, et al., 1997), used in this paper, could be applied for an assessment of the preference for less products. Other techniques might, however, be more appropriate, as point allocation method (Doyle, et al., 1997) appears to be too complicated for respondents in general. Separate point distribution for each product, such as 0-100 points for each product might be easier to perform for consumers, but it would also hinder the comparative context. Direct ranking of all the products from the best to the worst (Bass, et al., 1972) appears to be free from these limitations. Another interesting way to assess consumers´ brand preferences might be to let consumers pick three most preferred products from the assortment, and use eye tracking to measure their attention when making preferences. This technique might moreover enable to assess the difference in attention, when consumers make their preferences compared to choices (in terms of decision time, fixation duration to AOIs, etc.).

In our study, we compared the perception of a sustainable product to the two conventional brands; dominant brand Barilla, and Signature penne, which were, surprisingly, less popular products in terms of choice share. It might be therefore argued, that the spillover effects identified by this paper could be stronger, than if brands with higher choice shares would be taken into consideration. Hence, further comparison of the Napolina organic penne to some of the most popular brands such as Tesco penne, or Cook Italian penne might provide more solid ground in support of the hypothesis on negative between-product spillover effects. Moreover, we investigated the spillover effect in terms of difference between sustainable and mainstream products. Spillover effects can be also investigated in terms of change in mean attribute evaluation (Ahluwalia, et al., 2001). The spillover effects, which might be detected in this analysis would be however more straightforward. Although our sample size for the evaluation of the mainstream products was limited to perform such analysis, comparison involving bigger sample size could utilize this type of analysis.

Even though the findings on Barilla, and Signature provide at least some overview on how the rational perception of other products in the assortment changes, no specific attention effects

with respect to the price and label AOIs were found for these products. This might occurred for one of the two reasons; either the attention effects proposed in this paper were not present at these two product, but might have occurred on others, or they were not present at all. The fact, that for participants who noticed sustainable label, the attention to the overall assortment increased by almost half, suggest that some attention effects, however must have occurred. Further investigation of how the attention to the sustainable label affects further information search with respect to other products in the assortment is therefore necessary.

Because eye tracking data were collected for all the products in the assortment, these data can be used to further analyse the attention effects, as proposed by this paper. First, all the seven competing products in the assortment should be tested for the effects of label search and price comparison, as proposed by this paper. Second, as we mentioned earlier, the measurement of the label search was restricted to a small empty area on the conventional brands. The detection of a sustainable label may, however, had led to several other patterns in consumers´ attention. Changes in attention after the detection of a sustainable label should be therefore involve more complex analysis. There are several options, how could analysis of consumers´ attention to the overall assortment in response to the detection of a sustainable label be enhanced; (a) the analysis of trade-offs, in terms of number of transitions between product AOIs, and between specific product elements AOIs, in line with van Giesen (2016), (b) the analysis of the whole consumers´ attention pattern applying the methodology from Champagne, et al. (2010), which was comparing fish movements, (c) the analysis of order of the fixations to the brand, price, label AOIs on all the products in the assortment might, (d) multinomial logistic regression model, where choice (1out of 8 products) equals the sum of attention to the all brand, price, and label attention proportion for all the products, multiplied by their determinance in choice (Bilakova & van Trijp, 2011).

Because only a small portion of respondents noticed the sustainable label, the dataset to analyze the effects of the detection of the sustainable label was too small. Hence, the effect of price premium of the sustainable product on choice, could not be properly assessed. The extension of the existing dataset to increase the sample population of respondents who noticed the label might therefore provide more insights on what happens, when consumers realize that a sustainable alternative is available. Because the results of this study gave a good overview on the share of participants who notice the sustainable label in the purchase situation, future data collection should be done in a way to maximize attention to the label. This could be done by introducing the product prior the eye tracking measurement. Participants could for example read a short story, that we are introducing a new product on the market and mention the brand name (product image) to stimuli more attention to the product.

Results of this study, and of other researchers (Anagnostou, et. al., 2015) suggest, that the negative spillover effects in perception of other products is likely to occur, once an organic, or fair trade product is introduced in the market. This effect could however also occur in response to the introduction of other forms of sustainability in the market. The logic, that a sustainable product is better on social and environmental performance, than conventional product could for example be applied on sustainable packaging (e.g. biodegradable packaging).

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Experiment Center Manual. Version 3.5. June 2015

List of appendices

Appendix 1: The specifics of pasta product category

Pasta can be described as a processed, low-involvement product, which is consumed by the consumers at the daily basis. Pasta market is characterized by maturity and by elevated competitiveness (Di Monaco, Cavella, Di Maro&Massi, 2004). Due to its low price positioning, any changes in price has minor effect on purchases in comparison to categories selling at higher average prices (Cavallo, Del Giudice, Caracciolo& Di Monaco, 2014). The number of competitors operating on this market is high (Di Monaco, Cavella, Di Maro&Massi, 2004). Global leader in the pasta market by volume sales is Barilla, with the market share of 14% in Western Europe (Agricultura and Agri-Food Canada, 2010). Italian Barrilla also dominates in domestic market, where it accounts for 40% of sales of dried durum wheat pasta (Agricultura and Agri-Food Canada, 2010). In Europe, producers aim to gain competitive advantage by targeting specific consumer segments. Pasta consumer can be divided into four main segments (Szalai, 2014). The health conscious consumers express their interests in wholemeal, free-form, organic, or fortified varieties of pasta (Szalai, 2014). The price conscious consumers are more interested in pasta that is available for less than €1 per kg and use diverse distribution channels (Szalai, 2014). The time conscious consumers are more attracted by shorter cooking time, easy pasta recipes, and ready to eat pasta (Szalai, 2014). Finally, taste conscious consumers prefer fresh pasta, and filled chilled pasta (Szalai, 2014).

The most important product attribute in evaluation and decision of consumers is taste and appearance (Krutulyte, Costa & Grunert, 2009; Di Monaco, Cavella, Di Maro&Massi, 2004). Namely wheat taste, cooking performance, stickiness and capability of binding sauce have direct effect on consumers liking of the pasta (Di Monaco, Cavella, Di Maro&Massi, 2004).

Consumers´ use several informational cues, but in general, extrinsic cues are more important in evaluation and decision making in the pasta category (Krutulyte, Costa & Grunert's, 2009; Cavallo, Del Giudice, Caracciolo& Di Monaco, 2014). Most of the European consumers associate pasta with Italy hence country of origin is an important information cue for evaluation of pasta (Niss, 1996, Krutulyte, Costa & Grunert, 2009). Brand name, price, and label[2] were found to have significant effect on consumers´ preferences, and willingness to pay for pasta for Italian consumers (Cavallo, Del Giudice, Caracciolo& Di Monaco, 2014). The cross-national research shows ambivalent results when it comes to the role of price in relation to the quality of pasta (Krutulyte, Costa & Grunert, 2009). While in some countries price is directly associated with both cost and quality (Lithuania, Denmark), for others (Portugal), the price does not appear to

[2] In this case label refers to the certification of the right execution of production process, not a sustainable production.

be neither the quality indicator nor the cost consumers strive to minimize (Krutulyte, Costa & Grunert, 2009). A negative relationship between organic labels and taste of the pasta products was found (Naspetti&Zanoli, 2009). This is, hovewer due to the fact, that most of the organic pasta is available in wholemeal variant, which is in general being evaluated as poor in taste (Naspetti&Zanoli, 2009). The packaging does not seem to be an important quality cue in the context of pasta package (Krutulyte, Costa & Grunert, 2009, Cavallo, Del Giudice, Caracciolo& Di Monaco, 2014).

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Appendix 2: Pictures of the experimental area

Appendix 3: Illustration of the flyer to attract participants

Appendix 4: Instructions for participants

You will see eight different brands of pasta: penne rigate type. All of the brands contain 500 g of pasta and all of them were made in Italy. Look at the picture and think about which product you would probably buy in the supermarket. **When you make your choice, say "YES"** out loud. After that, product numbers will appear on the screen and you will be asked to mention the number of the product of your choice. Then, eye tracking measurement will be stopped and you will be asked to continue with filling up a short questionnaire.

When you will look at the products and make your choice decisions, we will record your eye movements by the eye tracking device. To enable the measurement, first we have to run the calibration procedure. After calibration is set up, the measurement will start with the word "**START**" and end with the word "**EXPERIMENT OVER**".

Eye tracking is very sensitive to body (especially head) movements, therefore we kindly ask you to sit still and try to minimize any body movements during the measurement.

Appendix 5: Consent with participation in the study

INFORMED CONSENT FORM

Eye tracking and Questionnaire

Researcher: Kristina Šubrtová

Project: MSc Thesis (MCB)

INFORMATION

Participation in the study will involve two phases: In the first phase, you will watch an image picturing different products, and you will be asked to mention which product you would probably buy in the supermarket. When you will look at the picture your eye movements will be recorded by the eye tracking device placed under the screen. Your eye will be illuminated with an infrared LED (like that used in TV remote controls). The amount of infrared illumination at your eye is less than the amount outside on a sunny day. In the second phase, you will be asked to fill in the questionnaire, which refers to image you have seen in eye tracking phase.

RISKS & DISCOMFORTS

We do not foresee any risks associated with your participation in this research study. As described, the infrared illumination is lower than you receive outdoors. Eye tracking is very sensitive to body (especially head) movements, therefore we kindly ask you to sit still and try to minimize any body movements during the measurement.

BENEFITS

The study you volunteered to participate in will help us better understand how individuals make their decision making in everyday purchase situations. By participating in this study you can also take part in a lottery and win a supermarket voucher. Aside from that you can see a picture your eye movements if you wish so.

CONFIDENTIALITY

The information in the study records and provided by you in the questionnaire will be kept strictly confidential. You will be identified through identification number. Data will be stored securely and will be made available only to persons conducting the study. No reference will be made in oral or written reports, which could link you to the study. Publications related to this work will not make reference to any individuals.

CONTACT

If you have questions at any time about the study or the procedures, you may contact the researcher; Kristina Šubrtová, phone: +31 (0) 633 871 479, email: kristina.subrtova@wur.nl

PARTICIPATION

Your participation in this study is voluntary; you may decline to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty and without loss of benefits to which you are otherwise entitled. If you withdraw from the study before data collection is completed your data will be destroyed.

CONSENT

I have read and understand the above information. I agree to participate in this study.

Subject's signature ..... **Date:** .....

Appendix 6: Stimulus image in control condition

Appendix 7: Stimulus image in experimental condition 1

Appendix 8: Stimulus image in experimental condition 2

Appendix 9: Questionnaire Example (Version 3)

Researcher´s part

Version

Version 3

Participant's number

Respondents´ part:

Q1) Which product did you choose in the previous section?

Tesco Penne

Napolina

Garofalo

De Cecco

Signature

Cook Italian

Barilla

Tesco Everyday Value

Q2) Why did you choose this product?

Q3 *Imagine you have 100 points. Distribute all your points among the products based on your preference. Next to the product you chose, you can use as many products as you want to give some points.*

1. Tesco penne
2. Napolina
3. Garofalo
4. De Cecco
5. Signature
6. Cook Italian
7. Barilla
8. Tesco Everyday Value

Q4) What is your gender?

Q5) What is your age?

Q6) What is your Nationality?

Q7) What is your study program?

Q8) How would you evaluate Napolina penne rigate?

	1 2 3 4 5 6 7	
Napolina penne will ***taste bad***	○ ○ ○ ◉ ○ ○ ○	***taste good.***
Napolina penne were produced in an ***envrionmentally unfriendly***	○ ○ ○ ◉ ○ ○ ○	***environmentally friendly*** manner.
Napolina penne will ***look bad after cooking***	○ ○ ○ ◉ ○ ○ ○	***look good after cooking.***
Napolina penne were made in a way which is ***beneficial to society***	○ ○ ○ ◉ ○ ○ ○	***harmful to society.***
My overall impression of Napolina penne is ***good***	○ ○ ○ ◉ ○ ○ ○	***bad.***
Napolina penne are ***unhealthy***	○ ○ ○ ◉ ○ ○ ○	***healthy.***
Napolina penne were produced from wheat cultivated with ***no use of pesticides and fertilizers***	○ ○ ○ ◉ ○ ○ ○	***use of pesticides and fertilizers.***
My overall impression of Napolina penne is ***unfavourable***	○ ○ ○ ◉ ○ ○ ○	***favourable.***
Napolina penne were produced in a way which is ***irresponsible to society***	○ ○ ○ ◉ ○ ○ ○	***responsible to society.***
Napolina penne will ***not be sticky at all*** after cooking	○ ○ ○ ◉ ○ ○ ○	***be very sticky*** after cooking.
Napolina penne will ***positively contribute to my health***	○ ○ ○ ◉ ○ ○ ○	***negatively contribute to my health.***
Napolina was produced under ***unfair working conditions***	○ ○ ○ ◉ ○ ○ ○	***fair working conditions.***
My overall impression of Napolina penne is ***unsatisfactory***	○ ○ ○ ◉ ○ ○ ○	***satisfactory.***
Napolina penne have a ***good quality***	○ ○ ○ ◉ ○ ○ ○	***bad quality.***

Q9) How would you evaluate Barilla penne rigate?

	1 2 3 4 5 6 7	
Barilla penne will ***taste bad***	○ ○ ○ ◉ ○ ○ ○	***taste good.***
Barilla penne were produced in an ***envrionmentally unfriendly***	○ ○ ○ ◉ ○ ○ ○	***environmentally friendly*** manner.
Barilla penne will ***look bad after cooking***	○ ○ ○ ◉ ○ ○ ○	***look good after cooking.***
Barilla penne were made in a way which is ***beneficial to society***	○ ○ ○ ◉ ○ ○ ○	***harmful to society.***
My overall impression of Barilla penne is ***good***	○ ○ ○ ◉ ○ ○ ○	***bad.***
Barilla penne are ***unhealthy***	○ ○ ○ ◉ ○ ○ ○	***healthy.***
Barilla penne were produced from wheat cultivated with ***no use of pesticides and fertilizers***	○ ○ ○ ◉ ○ ○ ○	***use of pesticides and fertilizers.***
My overall impression of Barilla penne is ***unfavourable***	○ ○ ○ ◉ ○ ○ ○	***favourable.***
Barilla penne were produced in a way which is ***irresponsible to society***	○ ○ ○ ◉ ○ ○ ○	***responsible to society.***
Barilla penne will ***not be sticky at all*** after cooking	○ ○ ○ ◉ ○ ○ ○	***be very sticky*** after cooking.
Barilla penne will ***positively contribute to my health***	○ ○ ○ ◉ ○ ○ ○	***negatively contribute to my health.***
Barilla penne were produced under ***unfair working conditions***	○ ○ ○ ◉ ○ ○ ○	***fair working conditions.***
My overall impression of Barilla penne is ***unsatisfactory***	○ ○ ○ ◉ ○ ○ ○	***satisfactory.***
Barilla penne have a ***good quality***	○ ○ ○ ◉ ○ ○ ○	***bad quality.***

Q10)

When I purchase pasta, I believe that these aspects are *very unimportant / very important.*

	1. very unimportant	2. somewhat unimportant	3. neither important nor unimportant	4. somewhat important	5. very important
Pasta which I buy was produced under fair working conditions.	○	○	◉	○	○
Pasta which I buy is healthy.	○	○	◉	○	○
Pasta which I buy was produced in a way which causes no damage to the environment.	○	○	◉	○	○
Pasta which I buy was made in a way which is not harmful to the society.	○	○	◉	○	○
Pasta which I buy has a good taste.	○	○	◉	○	○
Pasta which I buy is produced in a socially responsible way.	○	○	◉	○	○
Pasta which I buy is not sticky after cooking.	○	○	◉	○	○
Pasta which I buy was made with no use of pesticides and fertilizers.	○	○	◉	○	○
Pasta which I buy positively contributes to my health.	○	○	◉	○	○
Pasta which I buy looks good after cooking.	○	○	◉	○	○
Pasta which I buy has a good quality.	○	○	◉	○	○

Appendix 10: Students Specializations

- BAT => BSc Biosystems Engineering
- BBC => Bachelor Management and Consumer Studies
- BBN => Bachelor Forest and Nature Conservation
- BDW => Bachelor Animal Sciences
- BEV => Bachelor Economics and Governance
- BGM => Bachelor Health and Society
- BIL => BSc International Land and Water management
- BIN => Bachelor International Development Studies
- BLT => Bachelor Food Technology
- BPW => BSc Plant Sciences
- BTO => Bachelor Tourism
- BVG => Bachelor Nutrition and Health
- HNE => MSc Nutrition and Health
- HSO => MSc Health and Society
- MAB => MSc Biosystematics
- MAM => MSc Biology
- MAS => Master Animal science
- MBI => Master Biology
- MDR => MSc Development and Rural Innovation
- MEE => MSc Environmental Engineering
- MES => MSc. International Land and Water Management
- MFQ => MSc Food Quality Management
- MFS => MSc Food safety
- MFT => MSc Food Technology
- MGI => GIS and Remote sensing
- MHS => MSc Health and Society
- MID => MSc International Development Studies
- MIL => MSc International Land and Water Management
- MLT => MSc Biotechnology
- MME => MSc Management and Consumer Studies
- MNH => MSc Sensory Science
- MOA => MSc Organic Agriculture
- MPS => MSc Plant Sciences
- MUE => MSc Urban Environmental Management
- VHL => Food Innovation Management
- MCS => MSc Applied Communication Science
- Exchange program
- Bachelor => BSc Minor
- Internship
- None
- PhD student => PhD, Agricultural Economics PhD

Appendix 11: Illustration of European organic production label, and Gluten free production label used in the study

Source: Copied from skal.nl

Source: Copied from http://www.at375.com/gluten-free-products/

Appendix 12: Results for the reliability of the questionnaire concepts

Concept	Taste & Appearance	Health	Sustainability	Overall Attitude	Importance Taste	Importance Health	Importance Sustainability
Cronbach´s α	0.718	0.676	0.803	0.824	0.702	0.836	0.883

Source: Self-generated table based on SPSS outcome

Appendix 13: Results for construct validity

Correlations

		Quality	Good	Favourable	Satisfactory
Quality	Pearson Correlation	1	,368**	,363**	,318**
	Sig. (2-tailed)		,000	,000	,000
	N	318	318	318	318
Good	Pearson Correlation	,368**	1	,542**	,587**
	Sig. (2-tailed)	,000		,000	,000
	N	318	318	318	318
Favourable	Pearson Correlation	,363**	,542**	1	,714**
	Sig. (2-tailed)	,000	,000		,000
	N	318	318	318	318
Satisfactory	Pearson Correlation	,318**	,587**	,714**	1
	Sig. (2-tailed)	,000	,000	,000	
	N	318	318	318	318

**. Correlation is significant at the 0.01 level (2-tailed).

Table I: Correlation table for attitude scales

Correlations

		Taste	Look	Sticky	Healthy	Contributes to health	Environmentally friendly	Beneficial to society	Pesticides	Responsible to society	Fair working conditions
Taste	Pearson Correlation	1	,641**	,360**	,299**	,179**	,311**	,092	,048	,231**	,249**
	Sig. (2-tailed)		,000	,000	,000	,001	,000	,102	,395	,000	,000
	N	318	318	318	318	318	318	318	318	318	318
Look	Pearson Correlation	,641**	1	,371**	,251**	,122*	,272**	,112*	,113*	,229**	,238**
	Sig. (2-tailed)	,000		,000	,000	,030	,000	,046	,044	,000	,000
	N	318	318	318	318	318	318	318	318	318	318
Sticky	Pearson Correlation	,360**	,371**	1	,186**	,228**	,035	-,083	-,017	,081	,140*
	Sig. (2-tailed)	,000	,000		,001	,000	,534	,141	,768	,151	,012
	N	318	318	318	318	318	318	318	318	318	318
Healthy	Pearson Correlation	,299**	,251**	,186**	1	,514**	,407**	,137*	,289**	,439**	,398**
	Sig. (2-tailed)	,000	,000	,001		,000	,000	,014	,000	,000	,000
	N	318	318	318	318	318	318	318	318	318	318
Contributes to health	Pearson Correlation	,179**	,122*	,228**	,514**	1	,277**	,274**	,278**	,302**	,206**
	Sig. (2-tailed)	,001	,030	,000	,000		,000	,000	,000	,000	,000
	N	318	318	318	318	318	318	318	318	318	318
Environmentally friendly	Pearson Correlation	,311**	,272**	,035	,407**	,277**	1	,385**	,542**	,657**	,514**
	Sig. (2-tailed)	,000	,000	,534	,000	,000		,000	,000	,000	,000
	N	318	318	318	318	318	318	318	318	318	318
Beneficial to society	Pearson Correlation	,092	,112*	-,083	,137*	,274**	,385**	1	,372**	,355**	,258**
	Sig. (2-tailed)	,102	,046	,141	,014	,000	,000		,000	,000	,000
	N	318	318	318	318	318	318	318	318	318	318
Pesticides	Pearson Correlation	,048	,113*	-,017	,289**	,278**	,542**	,372**	1	,460**	,379**
	Sig. (2-tailed)	,395	,044	,768	,000	,000	,000	,000		,000	,000
	N	318	318	318	318	318	318	318	318	318	318
Responsible to society	Pearson Correlation	,231**	,229**	,081	,439**	,302**	,657**	,355**	,460**	1	,653**
	Sig. (2-tailed)	,000	,000	,151	,000	,000	,000	,000	,000		,000
	N	318	318	318	318	318	318	318	318	318	318
Fair working conditions	Pearson Correlation	,249**	,238**	,140*	,398**	,206**	,514**	,258**	,379**	,653**	1
	Sig. (2-tailed)	,000	,000	,012	,000	,000	,000	,000	,000	,000	
	N	318	318	318	318	318	318	318	318	318	318

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table II: Correlation matrix for scale of Attribute Evaluation concepts

Correlations

		Importance taste	Importance look	Importance sticky	Importance helthy	Importance contributes to health	Importance fair workig conditions	Importance no damage to environment	Importance not harmful	Importance socially responsible	Importance no use of pesticides
Importance taste	Pearson Correlation	1	,383**	,341**	,317**	,212**	,109	,126	,179*	,198*	,126
	Sig. (2-tailed)		,000	,000	,000	,007	,169	,113	,024	,012	,113
	N	159	159	159	159	159	159	159	159	159	159
Importance look	Pearson Correlation	,383**	1	,599**	,161*	,159*	-,147	-,023	,010	,013	,019
	Sig. (2-tailed)	,000		,000	,042	,045	,065	,770	,898	,867	,817
	N	159	159	159	159	159	159	159	159	159	159
Importance sticky	Pearson Correlation	,341**	,599**	1	,202*	,134	-,097	-,010	-,144	-,022	-,053
	Sig. (2-tailed)	,000	,000		,011	,091	,223	,899	,070	,786	,510
	N	159	159	159	159	159	159	159	159	159	159
Importance helthy	Pearson Correlation	,317**	,161*	,202*	1	,718**	,345**	,433**	,366**	,425**	,349**
	Sig. (2-tailed)	,000	,042	,011		,000	,000	,000	,000	,000	,000
	N	159	159	159	159	159	159	159	159	159	159
Importance contributes to health	Pearson Correlation	,212**	,159*	,134	,718**	1	,205**	,242**	,190*	,264**	,251**
	Sig. (2-tailed)	,007	,045	,091	,000		,010	,002	,016	,001	,001
	N	159	159	159	159	159	159	159	159	159	159
Importance fair workig conditions	Pearson Correlation	,109	-,147	-,097	,345**	,205**	1	,629**	,583**	,568**	,606**
	Sig. (2-tailed)	,169	,065	,223	,000	,010		,000	,000	,000	,000
	N	159	159	159	159	159	159	159	159	159	159
Importance no damage to environment	Pearson Correlation	,126	-,023	-,010	,433**	,242**	,629**	1	,676**	,560**	,634**
	Sig. (2-tailed)	,113	,770	,899	,000	,002	,000		,000	,000	,000
	N	159	159	159	159	159	159	159	159	159	159
Importance not harmful	Pearson Correlation	,179*	,010	-,144	,366**	,190*	,583**	,676**	1	,721**	,553**
	Sig. (2-tailed)	,024	,898	,070	,000	,016	,000	,000		,000	,000
	N	159	159	159	159	159	159	159	159	159	159
Importance socially responsible	Pearson Correlation	,198*	,013	-,022	,425**	,264**	,568**	,560**	,721**	1	,540**
	Sig. (2-tailed)	,012	,867	,786	,000	,001	,000	,000	,000		,000
	N	159	159	159	159	159	159	159	159	159	159
Importance no use of pesticides	Pearson Correlation	,126	,019	-,053	,349**	,251**	,606**	,634**	,553**	,540**	1
	Sig. (2-tailed)	,113	,817	,510	,000	,001	,000	,000	,000	,000	
	N	159	159	159	159	159	159	159	159	159	159

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table III: Correlation matrix for scale of Attribute Importance (Relevance) concepts

Appendix 14: Sample size and power calculation

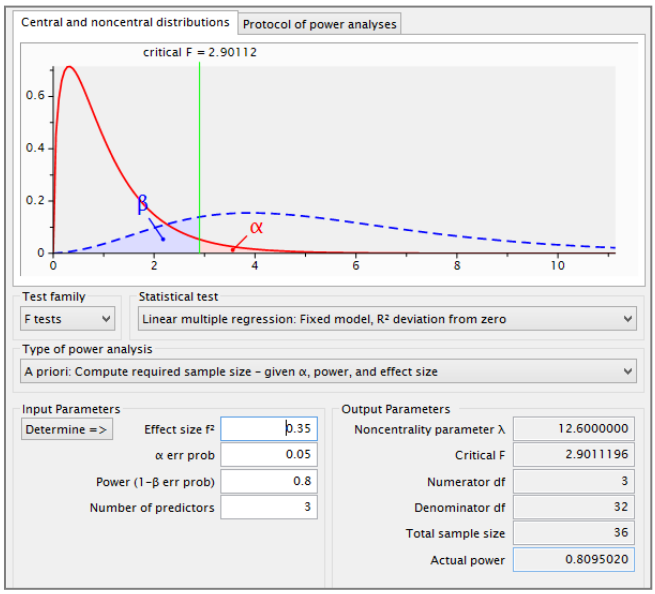

Figure I: Required sample size to perform multiple linear regression with 3 predictors

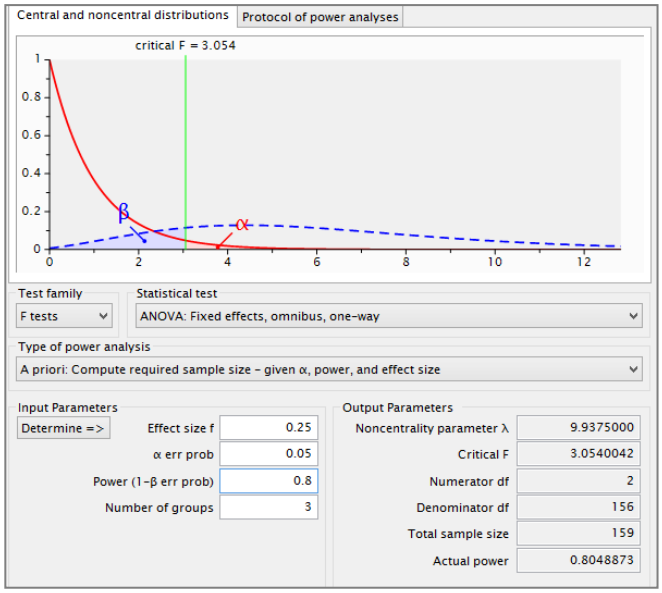

Figure II: Required sample size to perform One-way ANOVA to compare 3 groups

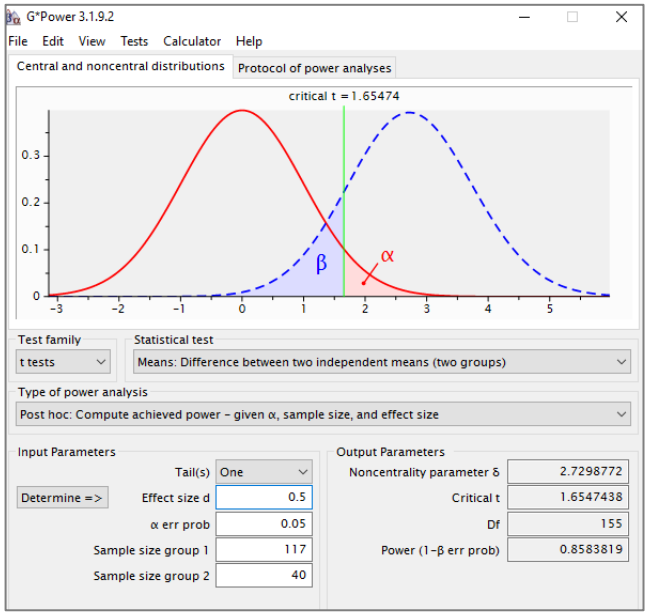

Figure III: Power calculation for independent sample t- test with 117/40 sample size

Source: Critical F values and sample sizes to test medium effect sizes; 0.35 for linear regression, 0.25 for ANOVA (Cohen, 1988) at the 0.05 level of significance and with 0.8 power of the test were self-generated in G*Power statistical software (available through: http://www.gpower.hhu.de/en.html)

Appendix 15: Results of the pairwise comparison of Label AOI ratio (Product vs Condition)

Product		Mean 1	Mean 2	Df (1-2)	T	p
Napolina		Control	Organic	-.00977	-2.455	.017
Napolina		Control	Organic*Price	-.01379	-3.739	.000
Napolina		Organic	Organic*Price	-.00402	-.745	.458
Barilla		Control	Organic	-.000256	-1.000	.322
Barilla		Control	Organic*Price	-.00038	-1.630	.070
Barilla		Organic	Organic*Price	-.00044	-.962	.338
Signature		Control	Organic	.00000	-	-
Signature		Control	Organic*Price	-.00081	-1.273	.208
Signature		Organic	Organic*Price	-.00063	-1.184	.239

Source: Self-generated table based on SPSS outcome