The Effects of Consumer Knowledge and Values on Attitudes and Purchase Intentions

A Quantitative Study of Organic Personal Care Products Among German Female Consumers

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The purpose of this study was to examine the effect of different types of consumer knowledge and values on their attitude towards buying organic personal care products and their purchase intentions of organic personal care products. The aim was to make a theoretical contribution to the research area of consumer behaviour in the context of organic products. As no research had been conducted on how different types of consumers’ knowledge affect their attitudes towards buying organic products and their purchase intentions of organic products, this study aims to address this research gap. In addition, while previous studies have mainly focused on organic foods, this study aims to enhance knowledge about the little researched sector of organic personal care products. Thus, the research question that guided this research reads as follows:

**What kind of impacts do different types consumer knowledge and values have on consumers’ attitudes towards purchasing organic personal care products and their purchase intentions of organic personal care products?**

The different types of consumer knowledge considered in this study comprised environmental literacy, past experience with organic personal care products and product expertise. The different values include environmental consciousness, health consciousness and animal well-being concern. A conceptual model was developed on the basis of the Theory of Planned Behaviour (Ajzen, 1985) considering the preceding factors in order to test the effects of the different constructs on consumers’ attitudes towards and purchase intentions of organic personal care products.

The study was conducted using a quantitative research method. Data was collected from a convenience sample of German female consumers by means of an online questionnaire. The data was analysed by using the statistical analysis program SPSS. The hypothesized effects were test by using Cronbach’s Alpha analysis, Pearson Correlation analysis, and several Regression analyses. The results partially supported the proposed hypotheses. Consumers’ environmental literacy, their past experience with organic personal care products and their values including environmental consciousness, health consciousness and animal well-being concern were found to have a significant positive effect on their attitudes towards purchasing organic personal care products. In addition, consumers’ past experience with organic personal care products, and consumers’ attitudes towards buying organic personal care products were found to have significant positive effects on consumers’ purchase intentions of organic personal care products while consumers’ environmental literacy was found to affect purchase intentions negatively.

The results of this study implicate that practitioners should aim to enhance consumers’ past experience as well as their environmental literacy in order to enhance their attitudes towards and purchase intention of organic personal care products. This can be achieved by using free product trials as a marketing tool and by running advertising campaigns that educate consumers’ about the beneficial effects of using organic personal care products on the environment.
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# TABLE OF CONTENTS

1. Introduction .................................................................................................................. 1  
   1.1 Choice of Subject ................................................................................................... 1  
   1.2 Problem Background .............................................................................................. 1  
   1.3 Theoretical Background and Knowledge Gap........................................................ 3  
   1.4 Research Question .................................................................................................. 6  
   1.5 Purpose ................................................................................................................... 6  

2. Theoretical Frame of Reference ................................................................................... 8  
   2.1 Green Consumption ................................................................................................ 8  
   2.2 Foundations of Behavioural Theories................................................................... 10  
      2.2.1 Attitudes ........................................................................................................ 12  
      2.2.2 Subjective norms ........................................................................................... 14  
      2.2.3 Perceived Behavioural Control ...................................................................... 15  
   2.3 Knowledge............................................................................................................ 17  
      2.3.1 Environmental Literacy ................................................................................. 17  
      2.3.2 Product Related Knowledge .......................................................................... 20  
   2.4 Values ................................................................................................................... 21  
      2.4.1 Environmental Cosciousness ......................................................................... 22  
      2.4.2 Health Consciousness .................................................................................... 23  
      2.4.3 Animal Well-Being Concern ......................................................................... 23  
   2.5 Conceptual Model ................................................................................................ 24  

3. Scientific Method ....................................................................................................... 26  
   3.1 Pre Understanding ................................................................................................ 26  
   3.2 Research Philosophy ............................................................................................ 26  
      3.2.1 Ontology ........................................................................................................ 27  
      3.2.2 Epistemology ................................................................................................. 27  
   3.3 Research Approach ............................................................................................... 28  
   3.4 Research Strategy ................................................................................................. 30  
   3.5 Choice of Theories................................................................................................ 31  
   3.6 Criticism of Sources ............................................................................................. 32  

4. Practical Method ......................................................................................................... 33  
   4.1 Research Design ................................................................................................... 33  
   4.2 Data Collection Method ....................................................................................... 34  
   4.3 Questionnaire Construction .................................................................................. 35  
   4.4 Sampling Technique ............................................................................................. 37  
   4.5 Data Collection ..................................................................................................... 38
LIST OF FIGURES

Figure 1. Theory of Reasoned Action ................................................................. 10
Figure 2. Theory of Planned Behaviour ............................................................ 11
Figure 3. Conceptual Model ........................................................................... 25
Figure 4. Process of Deduction ..................................................................... 29
Figure 5. Daily Responses ............................................................................. 38
Figure 6. Age Distribution ............................................................................ 42
Figure 7. Final Conceptual Model ................................................................. 55

LIST OF TABLES

Table 1. Differences Between Quantitative & Qualitative Research Strategies .... 31
Table 2. Levels of Professional Education (%) ..................................................... 43
Table 3. Cronbach's Alpha Coefficient .............................................................. 44
Table 4. Descriptive Statistics ......................................................................... 45
Table 5. Pearson Correlation .......................................................................... 46
Table 6. Coefficients Regression 1 ................................................................. 47
Table 7. Coefficients Regression 2 ................................................................. 48

ABBREVIATIONS

OPCP = Organic Personal Care Products
TRA = Theory of Reasoned Action
TPB = Theory of Planned Behaviour
PEB = Pro-environmental Behaviour
This chapter motivates for the choice of subject and introduces the problem background as well as the research gap that is going to be addressed in this study. It outlines how a theoretical contribution will be made and ends with a statement of the study’s research question and purpose.

1.1 CHOICE OF SUBJECT

We, Alena Recker and Bilal Saleem, are both currently studying Marketing Management at the University of Umeå. During our studies we have both developed a special interest in the field of consumer behaviour and in particular in the underlying motivational factors for consumers’ purchase decisions. Therefore, we decided to conduct our thesis in this field of research.

The industry of organic products as being a rather recent and evolving industry appeared to us has an interesting research field. While consumers’ interest in and demand for organic products are constantly growing (Euromonitor, 2013) we discovered that research on the underlying factors for consumers’ to purchase organic products is partially inconclusive and by far not yet exhausted (Peattie, 2010). In addition, we found that most research on organic products focused on organic foods which make up the largest market of the industry (e.g. Magnussen et al, 2003, Makatouni, 2002). We wondered whether findings on consumers’ purchasing behaviour for organic foods also apply to the second largest but little researched market of the organic industry - being organic personal care products. Therefore, we chose to conduct our study on the market of organic personal care products.

1.2 PROBLEM BACKGROUND

The market for green products as well as consumers’ demand for them has been growing continuously. The organic food and beverage market alone - constituting the biggest industry segment for green products - grew globally from $ 26,244.6 million in 2008 up to $ 32,307.2 million in 2013 (Euromonitor, 2013) resulting in an increase of around 23% within 5 years. Following the organic food and beverage market, the market for organic and natural personal care products is the second biggest segment in the market having a size of $ 7.6 billion in 2012 and being expected to reach $13.2 billion in 2015, growing at an annual compound rate of 9.6% (Transparency Market Research, 2013).

The growing demand for organic products reflects consumers’ increasing interest and concern about their health (Magnussen et al., 2001). However, despite increased consumer interest in making consumption decisions that are good for their health as well as environmentally sound, there is also increased confusion among consumers about what natural and organic products are (Bray et al., 2011, p. 602) which can be ascribed to the lack of regulation in the market (Mintel, 2013). A study conducted by Mintel (2013, p.7) revealed that perceptions about what makes a product organic or natural vary greatly from consumers thinking these products “contain ingredients from
plants, fruit, seeds etc.” while others think they are fragrance-free or that they come in recycled packaging. This confusion has led to an increasing distrust in the labels “organic” and “natural” which is likely to stem from lacking regulation within the industry allowing a multitude of products claiming to be organic and natural to flood the market (Yu-Shan and Ching-Hsun, 2013, p. 489). In fact out of all beauty and personal care new product launches from January till October 2012 37% claimed that they are botanic/herbal and the second and third most often stated reason for consumers to not buy natural or organic personal care products is that “so many products claim to be natural or organic that it’s hard to tell which ones are the most natural” (25% of respondents) and that consumers think “that labelling something as natural or organic is just an excuse to charge more” (24% of respondents) (Mintel, 2013, p. 6). Thus, even though consumers’ interest in health and environmental issues are increasing - providing a huge opportunity for the natural and organic personal care industry to push forward - the lack of regulation and opaqueness of the market prevent many consumers from purchasing organic or natural personal care products. Therefore, operating with greater transparency around their business, ingredients and products claims and enhancing consumers’ knowledge about organic products as well as environmental and health issues has been identified by Mintel (2013) as a huge opportunity to embrace increasing consumer interest in green products.

Green products are also often referred to as environmentally friendly products (Dangelico and Pontrandolfo, 2010). However, there are other dimensions to a green product than the environmental dimension such as fair trade, social impact, conservation, sustainability, not endangering the consumers’ health, waste avoidance, no unnecessary animal testing (Elkington and Hailes, 1988; Peattie, 1995). Following previous research (Elkington and Hailes, 1988; Simon, 1992; Peattie, 1995; Roy et al., 1996.) in this study green products will be considered as products that

• are more sustainable,
• have less impact on the environment,
• do not endanger the consumers’ health,
• have been produced ethically and socially responsible, and
• avoid unnecessary animal testing.

Organic and natural products, which will be at the focal point of this study, constitute one type of green products (GILG et al., 2005, p. 481). The term “organic” is not legally regulated, however, the attempt of the U.S. Department of Agriculture to define “organic” has been widely accepted as it comprises various aspects making the definition comparatively holistic and will, thus, guide this study’s understanding of the term “organic”. The USDA refers to organic has a production system which utilises organic (animal and plant) dung and features crop rotations, crop residues, off-farm organic wastes as well as biological pest control, thus, not using synthetically produced fertilisers, pesticides, growth regulators and additives when feeding livestock (USDA, 1980). This, according to a study carried out by the Food and Agriculture Organisation of the United Nations will have a positive effect on the environment by for example reducing the contamination of water or by improving soil fertility as crop get rotated (FAO, 1998).

This study will look at the organic consumption of German consumers as Germany has traditionally been ranked as one of the countries most concerned with the environment
(Peattie, 2010, p. 199). In addition German consumers have also been revealed to be most concerned with health risks in their food consumption (Kafka and van Alvesleben, 1998) and to be most interested in organic products (Brunsoe and Bredahl, 1997), thus, making it an interesting population to study. Therefore, it is beneficial to also look at the European definition of organic farming which has been proposed by the council of the European Union as an “overall system of farm management and food production that combines best environmental practices, a high level of biodiversity, the preservation of natural resources, the application of high animal welfare standards and a production method in line with the preference of certain consumers for products produced using natural substances and processes” (Council of the European Union, 2007).

The product category of personal care products, often also referred to as “toiletries” or “cosmetics”, usually comprises the sub-categories of colour cosmetics (facial/lip/nail/eye make-up), deodorants, fragrances, haircare (shampoos, conditioners, styling agents, colorants), shaving and depilatories, skincare (face, body, hands, feet, sunscreen protection, after-sun, self-tanning) as well as soap and bath products (shower gels/creams, body washes, soaps, bath foams/gels/additives) (Mintel, 2013). As outlined before no binding legal definition or standards exist as yet regarding what constitutes an organic personal care product - which most likely contributes to the great confusion and scepticism surrounding organic products which prevails among consumers. However, in an attempt to counteract this problem, the five leading European organic certifiers The Soil Association, BDIH, Cosmebio, Ecocert and ICEA have made an allegiance and developed European standards for organic products - known as COSMOS standards - which are, however, not yet compulsory for companies to adhere to. These standards propose “natural” personal care products not to consist of more than 5% synthetics which, in addition, have to be permitted as an ingredient of “natural” personal care products. “Organic” personal care products - in addition to fulfilling the requirements for natural products - also have consist of at least 20% organic ingredients and 95% of their physically processed agro-ingredients have to be organic (COSMOS-standard, 2013). Even though these standards constitute great opportunities for the organic personal care market, this study will not only take into account products that meet the requirements but will consider all products that claim to be organic or natural.

Considering the significant growth of the industry of organic personal care products as outlined above, it is important for practitioners to gain greater knowledge about current and potential consumers to be able to better satisfy their needs and respond to their demands and, thus, tap into undiscovered opportunities of this market. In particular, confusion and lack of knowledge about organic personal care products prevailing among consumers appear to be one of the major impediments for a rapid expansion of the market (Mintel, 2013). As this study considers the effect of consumers’ knowledge on their attitudes and purchase intentions of organic personal care products, the findings of this study will help practitioners to better assess the importance of consumer knowledge for the success of their products and act upon it.

1.3 THEORETICAL BACKGROUND AND KNOWLEDGE GAP

The increasing demand for green products as well as consumers’ growing interest for the environment and health has drawn significant attention from researchers, resulting in different studies about green or organic products (e.g. Tallontire et al., 2001; Makatouni, 2002, von Alvensleben, 1998).
Many studies focus on identifying the underlying motives leading consumers to buy green products. At this, consumer values such as health concerns as well as concerns for the environment or animal welfare are among the motives most often identified in research to motivate the consumption of organic products (Makatouni, 2002; Zanoli and Naspetti, 2002; Grunert and Juhl, 1995; Davies et al., 1995; von Alvensleben, 1998). At this, self-interested motives such as health concerns have been found to clearly outweigh altruistic reasons (environmental concern, animal welfare) for buying organic products (McEachern, McClean, 2002). Besides motivational factors for purchasing organic products, many studies have also identified several factors impeding the consumption or rather purchase of green or organic products which are most often found to be (perceived) higher price, limited availability, (perceived) inferior quality of product, lack of information and confusion about what green, natural and organic means as well as distrust regarding green product claims (Davies et al., 1995; Mintel, 2013; Bray et al., 2001; Magnusson et al., 2001).

Another stream of research on green products focuses on how consumers’ perceptions of and attitudes towards organic products influence purchasing of green products (Aertsens et al., 2009; Grunert and Juhl, 1995). Several studies find that green products are perceived as being healthier but also more expensive than their conventional counterparts while findings about the perceived quality of green or organic products have been ambiguous (Radman, 2005, Magnusson et al., 2001). Despite many consumers showing a positive attitude towards green products, purchase intentions or actual purchasing behaviour is significantly less pronounced leading several studies to conclude that there is an “ethical purchasing gap” (Nicholls and Lee, 2006), often also referred to as “attitude-behaviour gap” (Kim et al., 1997). In accordance with the “attitude-behaviour gap” several studies confirm that even though consumers’ attitudes toward organic products are positive they have little value in explaining actual (purchasing) behaviour.

Great attention in research has also been paid to identifying the “green” consumer. At this, some findings are consistent across different studies - e.g. that families with children are more likely to buy green or organic products (Wandel and Bugge, 1997; Mintel) or that women are more interest in green products than men (Mintel, 2013; Wandel and Bugge, 1997; Davies et al., 1995). However, other findings from research focusing on the demographic profiling of consumers has been contradictory, thus, implicating that consumption of green and organic products can only partly be explained by demographics. For example, while some studies find that consumers of green products tend to come from higher socio-economic groups (Tallonire et al., 2001; Ngobo, 2011; Davies et al., 1995; Mintel 2013, von Alvensleben, 1998) others find that consumers from lower socio-economic groups are more likely to purchase green products while others do not come to any conclusions (Jolly, 1991). Also, while younger consumers’ express a more positive attitude towards organic or green products, older consumers are more prone to actually buy them, reflecting the lower purchasing power of the younger segment (Magnusson et al., 2001, Fotopoulus et al., 2003).

As can be seen, extensive research in the field of green or organic products exists. However, to the authors’ best knowledge, no research has dealt with the influence of different types of consumers’ knowledge such as environmental literacy, product category related knowledge (i.e. past experience, product expertise) on their attitudes
and, hence, their purchase intentions of these products. There are several studies examining the influence of environmental knowledge on environmental attitude (Campbell et al., 2010; Arcury 1900; Frig-Andrés and Martinez-Salinas, 2007; Kaiser et al., 1999) while others find product (category) knowledge to affect consumers’ product quality judgements, their price acceptance as well as their information search behaviour (Rao and Sieben, 1992; Rao and Monroe, 1988; Bucks, 1985). However, none of the existing studies has made the link between and considered the different types of consumer knowledge including environmental literacy and product related knowledge such as past experience and product expertise and consumers attitudes towards these products and - taking it one step further - their purchase intentions for green or organic products. Yet, current research frequently shows that a lack of information about organic products - and, thus, lack of knowledge - is amongst the reasons most frequently stated by consumers as impeding consumption of green or organic product (Davies et al., 1995; Mintel 2013; Bray et al., 2001; Magnusson et al., 2001). In fact, it has been found that considerable confusion prevails among consumers regarding terms “organic” or “green” or “natural” (Chryssochoidis, 2000). Even though most consumers are aware of the terms and are able to link basic attributes such as “chemical-free” to them, most know little about the actual standards and practices related to products labelled “organic” or “natural” - which is likely to be a consequence of little standardized definitions and the non-existence of legal restrictions regarding the use of those terms for labelling products (Davies et al. 1995, Harper and Makatouni, 2002; Hill and Lynchehaun, 2002). This gives a strong indication that knowledge about environmental issues and organic products in general has a strong, however not yet appreciated, influence on consumer attitudes towards and purchase intentions of organic products. Thus, an advanced knowledge about how consumers’ knowledge influences their attitudes and purchase intentions of organic products will be of great value - for both researchers and practitioners - as it could enhance their assessment of the importance of consumer knowledge management and educating the consumer about environmental and health related issues as well as about the product category of organic products. Therefore, this study will aim to address the research gap regarding how consumer knowledge influences their attitudes towards and purchase intentions of natural and organic products.

Regarding the research gap, many studies in the research field of organic and natural products focus on organic foods (e.g. Zanoli and Naspetti, 2002; Hughner et al., 2007; Padel and Foster, 2006; Davies et al., 1995). Constituting the biggest segment of organic and natural products (Euromonitor, 2013) the heavy focus of research on this segment appears natural. However, being the second largest sector following the food sector in the organic industry in countries such as the US (Organic Trade Association, 2006), the organic and natural personal care sector has received - as measured by its size - little attention from research. To the authors’ best knowledge only two studies have exclusively dealt with the sector of organic and natural personal care products as yet: The first study by Kim and Chung (2001) has looked at consumers’ purchase intentions for organic personal care products. The second by Dimitrova et al. (2009) identified that consumer awareness and knowledge of Bulgarian rose products is positively related to product performance and that a well-balanced media mix might contribute to greater consumer knowledge of these products.

There are many analogies between the organic food sector and the organic and natural personal care sector, as findings from Mintel (2013) confirm which identify
environmental and health concerns to be both crucial reasons for consumers to buy organic food as well as organic and natural personal care products. Thus, one can argue that it is possible to transfer some findings from research focusing on organic food to gain a greater understanding about consumer attitudes, preferences and behaviour regarding organic and natural personal care products. However, research has also shown that the two industries also show some distinctions which makes an unrestricted transfer of findings from the organic food sector to the organic and natural personal care factor only possible if done with caution. For example, while Kim and Chung (2001) found that appearance consciousness has an impact on consumers’ attitudes towards organic and natural personal care products no study dealing with organic food has found this factor to be influential regarding consumers’ attitudes of organic food. Therefore, a full transferability of findings from research focusing the sector of organic food to the sector of organic and natural personal care products appears needs to be done with caution.

As identified above, little research has focused on an understanding of the consumers of organic and natural personal care products, as compared to the consumer of organic food. However, having a considerable market size of $7.6 billion in 2012 and being expected to reach $13.2 billion in 2015, growing at an annual compound rate of 9.6%, (Transparency Market Research), one can argue that the market for organic personal care products constitutes an important sector that is worth getting an enhanced knowledge of but which, however, has not been explored sufficiently by research.

1.4 RESEARCH QUESTION

This study aims to address the research gap identified above being how different types of consumer knowledge influence consumers’ attitudes towards and purchase intentions of organic and natural personal care products and to contribute to an advanced knowledge of the little noted sector of organic and personal cosmetics-

Thus, the research question for this study is:

*What kind of impacts do different types of consumer knowledge and values have on consumers’ attitudes towards purchasing organic personal care products and their purchase intentions of organic personal care products?*

1.5 PURPOSE

The main purpose of this study is to examine the impact of consumer knowledge and values on their attitude towards purchasing organic personal care products and their purchase intentions of natural and organic personal care products. While consumer knowledge comprises environmental literacy, and product related knowledge (past experience and product expertise) values include environmental consciousness, health consciousness and animal well-being concern. Furthermore, this study looks at how perceived behavioural control and social norms influence consumers’ purchase intentions of organic personal care products. Thus, this study aims to make a theoretical contribution to research conducted within the field of green consumption and in particular regarding consumer knowledge, attitudes and purchase intentions. It intends to enhance the knowledge of consumer behaviour within the organic product industry and in particular within the sector of organic and natural personal care products. This
will be achieved by the development and testing of a conceptual model by means of a statistical analysis of data collected by an online survey.

In order to fulfil the purpose of this study, following sub-purposes can be identified:

- To investigate the influence of consumers’ environmental knowledge on their attitude and purchase intentions of organic personal care products.
- To investigate the influence of consumers’ product related knowledge on their attitude and purchase intentions of organic personal care products.
- To investigate the influence of consumers’ values on their attitude and purchase intentions of organic personal care products.
- To examine the influence of consumers’ social norms, attitudes and perceived behavioural control on their purchase intentions of organic personal care products.
2. THEORETICAL FRAME OF REFERENCE

In this chapter the relevant theories for the context of consumer behaviour and green consumption are introduced and discussed. After an outline of the most important theories regarding green consumption, the prevailing behavioural theories – the TRA and TPB – and their constructs are discussed. Following, the constructs consumer knowledge and consumer values are presented and related to consumers’ attitudes towards purchasing OPCP and their purchase intentions of OPCP. Finally, a conceptual model presenting the hypothesized effects is introduced.

2.1 GREEN CONSUMPTION

Even though being a rather recent phenomenon, first notions of the concept of “green consumption” can be found in the 1970s, when concern about the impact about consumption and products on the environment rose (Conolly, Prothero, 208, p.118) leading some scholars to introduce the notions of “responsible consumption”, “ecological market” and the “ecologically concerned consumer” (Fisk, 1974; Henion and Kinnear, 1976; Kardash, 1976). Initial research on green consumption mainly focused on a few industries which are mostly associated with environmental pollution such as the automobiles, oil, energy or chemicals and green consumption at that time was mostly related to saving energy, recycling (Henion and Kinnear, 1976; Kardash, 1976). Later, research tried to profile green consumers and to understand their motivations behind it (Kilbourne and Beckmann, 1988; van Dam and Apeldoorn, 1996). Despite the different research done in the field of green consumption (e.g. Fisk 1974, Kardash, 1976, Gilg et al., 2005) a clear and widely recognised definition of the concept of “green consumption” or “green products” does not yet exist as Gilg et al. (2005, p. 481) outlines that it is “a term that has come to mean all things to all people”. While it is often related only to environmental issues the concept of “green consumption” as well as green products are also intertwined with ethical or sustainable consumption (Paettie, 2010, p. 197). For example, while buying Fair Trade coffee is mainly related with ethical consumption it also contains aspects of green consumption as Fair Trade standards also ensure environmental protection and biodiversity (Peattie, 2010, p. 197). At the same time, purchasing organic products is mostly associated with green consumption, while other motives such as health consciousness also apply (Peattie, 2010, p. 197). Therefore, following previous research (e.g. Peattie, 2010), this study accepts the definition of sustainable consumption as given by the United Nations Environment Programme to also apply to green consumption while mainly considering the environmental aspects of sustainability. Thus, this study views green consumption as being “a number of key issues, such as meeting needs, enhancing quality of life, improving efficiency, minimising waste, taking a life cycle perspective and taking into account the equity dimension, for both current and future generations, while continually reducing environmental damage and the risk to human health (UN Environment Programme, 2001). This study uses the term and considers the concept of “green consumption” instead of “sustainable consumption”. This is due to the fact that green consumption - while still being fairly broad - emphasises the environmental aspect of sustainable consumption (Peattie, 2010, p. 197. As purchasing organic products - which is at the focal point of this study - is mainly associated with green consumption, this choice appears appropriate (Peattie, 2010, p. 197; Gilg et al., 2005, 485-486).
When looking at green consumption from a more practical stance, the summary of activities linked to this kind of consumption provided by Gilg et al. (2005) appears helpful in gaining a better understanding about what green consumption entails. Gilg et al. (2005), thus, identify the following activities as being part of a green or sustainable consumption:

- the purchase of products that have less impact on the environment
- avoidance of products containing aerosols
- the purchase of paper products that are recycled (e.g. toilet tissue, writing paper)
- the purchase of products that are organic
- the purchase of products that have been produced locally
- buying from a local store
- the purchase of goods that have been traded fairly
- searching for products that have less packaging
- avoidance of using plastic bags provided by a shop by using one’s own bag

Research on green consumption has focused heavily on understanding and finding motivational factors inducing purchasing of green products. In order to do so, already established theories and models from consumer behaviour are frequently being applied to green consumerism such as the theory of reasoned action and the thereupon deduced theory of planned behaviour (Fishbein and Ajzen, 1975; Ajzen 1985). These theories find behaviours to be influenced by intentions and intentions, in turn, to be dependent on attitudes towards the behaviour as well as the outcomes one expects to follow the behaviour (Fishbein and Ajzen, 1975; Ajzen 1985). Furthermore, the models view social norms as a driver of behavioural intentions which reflect the subject’s perception of what behaviour is expected by other social actors. (Fishbein and Ajzen, 1975; Ajzen 1985) In addition to this, the theory of planned behaviour also integrates the concept of planned behavioural control - reflecting the subject’s perceived ability and possession of means to conduct certain behaviour - into the model and views it as another driver for behavioural intentions (Ajzen, 1991). These consumer research theories that find frequent application in the research of green consumerism are also of major importance for this study and will, thus, be explained in greater detail in the next sections.

By applying the theories from consumer research such as the theory of reasoned action and the theory of planned behaviour, previous studies have found green consumption to be motivated by values or concerns regarding the environment, health and animal well-being (e.g. Laroche et al., 2001; Makatouni, 2002; Krystallis et al., 2005; Kim and Chung, 2011; Magnussen, 2003; Honkanen, 2006; Michaelidou and Hassan, 2008;). In addition, there are various studies indicating that environmental knowledge influences
ecological behaviour - which comprises green consumption (Kaiser et al., 1999; Fraj-Andrés and Martinez-Salinas, 2007). As these motivational factors play an important role in this study the concepts will be explained in the following sections of this chapter.

2.2 FOUNDATIONS OF BEHAVIOURAL THEORIES

It has always been of major interest to researchers to discover the factors that lead people to perform certain behavior. One prevailing theory that aims to explain and uncover the motivational influences on behavior is the Theory of Reasoned Actions (TRA). The TRA was introduced by Ajzen and Fishbein in 1975 and has been developed further to the Theory of Planned Behaviour (TPB) by Ajzen in 1985. The TRA and its extension the TPB have been widely used to predict behavioural intentions as well as actual behavior (Madden et al. 1992, p. 3). They have gained particular popularity in the field of consumer research where they are used to predict consumers purchase intentions and purchasing behaviour (reference!).

The TRA (figure 1) views behavioural intentions as an immediate antecedent to behavior and finds behavioural intentions to be determined by a person’s beliefs that that performing a particular behaviour will lead to certain outcomes (Fishbein and Ajzen, 1975). These beliefs can be divided into two categories being the individual’s attitudes towards the behaviour and their subjective norms (Madden et al., 1992, p. 3). Thus, an individual’s attitude towards performing a specific behaviour as well as their subjective norms, meaning what they perceive others do - or would approve of them doing – influence their behavioural intentions, which in turn predict their actual behaviour. Therefore, the TRA only considers factors that are within the volitional control of individuals.

FIGURE 1. THEORY OF REASONED ACTION
(Source: Madden et al., 1992)

The Theory of Planned Behaviour (figure 2) introduced by Ajzen in 1985 expands the TRA insofar as it does not only consider the factors that lie within the control of the individual. Instead, it also considers the factor of perceived behavioural control denoting the beliefs a person has about whether he or she has the resources, abilities and opportunities to perform a specific behaviour (Ajzen, 1985). Thus, the more resources, abilities and opportunities to perform a specific behaviour an individual believes he or she possesses, the more likely it is that he or she performs this behaviour (Madden et al., 1992, p. 4). In contrast to an individual’s attitude towards performing a particular behaviour and their subjective norms, which only directly affect the individual’s
behavioural intentions, perceived behavioural control affects both, an individual’s behavioural intention and his or her actual behaviour (Ajzen, 1985). The reasoning for this is that perceived behavioural control has motivational implications for an individual’s behavioural intentions insofar as if the individual feels that he or she does not have the resources/abilities/opportunities to perform a behaviour, his or her behavioural intentions might be low even though his or her attitudes and subjective norms are favourable (Madden, 1992, p. 4). The direct effect of perceived behavioural control does not reflect the motivational aspect but the actual control a person has over performing a specific behaviour which might inhibit an individual to perform that behaviour (Madden, 1992, p. 4).

In their comparison of the TRA and the TPB Madden et al. compared the predictability of ten different kinds of behaviours by means of the two theories. The findings show that the inclusion of perceived behavioural significantly enhanced the prediction of behavioural intentions as well as actual behaviour. They considered ten different kinds of behaviours and found that the TPB explained considerably more variation in behavioural intentions and actual behaviour than the TRA (Madden et al., 1992). In addition Hansen et al. (2004) also show that the TPB predicts consumers’ online purchasing intentions more accurately than the TRA. Thus, as the TPB has been found to predict behavioural intentions and behaviour more accurately than its predecessor the TRA, the TPB has been considered in this study.

The TPB has found wide application in research and has been well supported by empirical evidence to accurately predict different kinds of behaviour (Ajzen, 1991). In particular, the research field of consumer behaviour has widely applied the TPB (Sheppard et al., 1988, p. 324). For example, Hansen et al., (2004) use the TPB to predict consumers’ online grocery buying intentions. In addition George (2004) applied the TPB to predict consumers’ internet purchasing and Heath and Gifford (2002) used it for predicting the use of public transportation.

Considering the context of organic products, the TPB has also found wide application. For example Rennings (2013) show that consumers’ intentions to purchase organic products are dependent on whether they perceive this will have a positive or negative outcome and whether they think that certain people in the society would approve of this purchase (Rennings, 2013). In addition, Arvola et al. (2008) use the TPB to predict
purchase intentions of organic foods and extend it by the two factors affective and moral attitudes. They found that, in particular, attitudes and subjective norms explained variances in purchase intentions of organic foods (Arvola et al., 2008). Similarly Vermeir and Verbeke (2008) use the TPB to investigate determinants of sustainable food consumption of young Belgium adults and added the factors confidence and values related to sustainable products. They find that around 50% of variance in consumers purchase intentions for sustainable food is explained by their attitudes, subjective norms and perceived behavioural control (Vermeir and Verbeke, 2008). Moreover, Han and Hsu (2010) have applied a refined TPB model to predict the behaviour of green hotel choice – finding that all three factors attitudes, subjective norms and perceived behavioural control positively affect intentions to stay at a green hotel.

All of the above outlined studies show that the TPB constitutes is a useful model to predict green consumption and in particular, purchasing of organic products. It will therefore serve as the basis for this study and will be appropriately extended in the following section. In the following the three main factors of the model – consumers’ attitudes towards performing a behaviour, their subjective norms and their perceived behavioural control – will be outlined.

2.2.1 ATTITUDES

As outlined above, according to the theory of reasoned action and the theory of planned behaviour, attitudes towards certain behaviour - besides subjective norms and perceived behavioural control - are a good predictor of that behaviour or rather of behavioural intentions and, thus, will be at the focal point of this study (Ajzen, 1985).

There are various definitions trying to outline the concept of attitudes placing importance on different aspects. However, a comprehensive definition of the concept that comprises all relevant features of attitudes has been provided by Eagly and Chaiken (1993, p. 1) who see attitudes as “a psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour”. This definition benefits from embracing all three key features of attitudes being tendency, entity and evaluation, whereby entity is often also referred to as the attitude object, thus meaning the object a particular attitude is directed towards (Eagly and Chaiken, 1993, p. 1). Besides actual objects, attitudinal objects can be persons, ideas or behaviours (Eagly and Chaiken, 2007). While some scholars equate attitude with evaluative judgments or affective responses (e.g. Albarracin and Wyer, 2011, Kruglanski and Strobe, 2005), others suggest to distinct between attitudes and evaluative responses, arguing that they are not synonymous (Eagly and Chaiken, 1993, p. 586). This study follows the view that attitudes and evaluative response should not be regarded as synonymous based on the argumentation that attitudes elicit evaluative responses and thus are predictors or determinants of behaviour. Thus, this study corresponds to the theory of reasoned action and the theory of planned behaviour outlined above which also sees attitudes and evaluative responses as two distinct concepts (Ajzen, Fishbein, 1975; Fishbein, 1985).

Attitudes are seen by many researchers as having three components: affect, cognition and behaviour. This tripartite model of attitudes views cognitive, affective and behavioural processes as being responsible for the formation of attitudes but also as expressions of them (e.g. Brecskler, 1984; Zanna and Rempel, 1988). For example, being exposed to messages or advertisements leads to cognitive processes resulting in attitude
formation (Eagly and Chaiken, 2007, p. 591). The cognitive aspect in attitude expression, on the other hand, is revealed by associations the people make between an entity or attitude object and different attributes (Eagly and Chaiken, 2007, p.591). Even though this model has been recognized by many scholars, it has, however, also received some criticism and its limitations have been revealed. For example, the three factors have been found to not always be easily separable (Eagly and Chaiken, 1993). It, thus, has been argued that attitudes do not necessarily have to include all three components either in their formation or when they are expressed. Rather, they can be formed or expressed by only one of the three processes, primarily by one or by a mix of them (Eagly and Chaiken, 2007, p. 592). The view that attitudes do not necessarily have to be formed or expressed by all processes - affective, cognitive and behavioural is being followed in this study. Instead of looking at the three processes as explicit antecedents of attitudes towards organic personal care products, this study rather sees them, as being part of the different factors influencing attitudes, that have been identified in previous research on green or organic products such as consumer knowledge, environmental literacy and consumer values. Though these factors influencing attitudes towards organic personal care products will be explained in more detail later, one can argue that cognitive processes can be seen as part of the antecedent “consumer knowledge” and “environmental literacy”, behavioural processes as being part of the antecedent of past experience (which in turn is a part of consumer knowledge) and affective processes as being part of consumers values.

As identified above cognition, affect and behaviour are not only antecedents but also expressions of attitudes. However, as consumers’ behavioural responses regarding organic personal care products (i.e. their purchase intentions) are of major importance for this study rather than consumers’ affective or cognitive responses regarding organic natural care products, the latter two expressive expressions will not be considered. The behavioural processes expressing consumers’ attitudes towards organic personal care products, however, will be of major concern. In fact, the influence of attitudes on behaviour have been identified by various previous studies and is, among others, part of the theory of reasoned action and the derived theory of planned behaviour as outlined above (Fishbein and Ajzen, 1975; Ajzen, 1985). However, the influence of attitudes on behavioural intentions has been found to be higher than the influence of attitudes on behaviour which leads to the conclusion that behaviour is influenced by attitudes mainly through the influence of behavioural intentions (Kim and Hunter, 1993).

Research on green consumption in particular has also shown a relationship between attitudes towards buying green or organic products and the intention to buy them (e.g. Kim and Chung, 2011). Thus one can argue that attitudes towards buying organic personal care products influence purchase intentions of organic personal care products.

Thus, the following hypothesis can be derived at:

**H1: Consumers’ attitude towards buying organic personal care products has a positive effect on their purchase intentions for organic personal care products.**
As outlined above, subjective norms constitute one element of the theory of reasoned action and theory of planned behaviour insofar as it is viewed as one driver of behavioural intentions. According to Fishbein and Ajzen (1975, p. 302) subjective norms reflect the “influence of the social environment on behaviour” and can be defined as the individual’s perception that the majority of referent individuals or groups would expect him or her to perform a certain behaviour”. Fishbein and Ajzen (1975, p. 302) argue that the concept of subjective norm is determined by two dimensions being the perception of what social actors that are important to the subject think he or she should do and the subject’s motivation to comply with these perceived expectations. Referent individuals or groups - meaning persons or groups whose opinion and expectation are important to the subject concerning a specific behaviour - can change depending on the behaviour in question. For example, while for some behaviour the person might consider his or her family of friends as important reference individuals/groups, in other situations the expectations of his or her chief or colleagues are seen as being important while the opinion of friends and family are not regarded at all (Ajzen and Fishbein, 1975, p.302). For example, for high school students the influence of the reference group “family” is greater regarding the purchase and consumption of organic products than is the influence of referent groups that can be ascribed to the secondary socialisation, such as the influence of school teachers (Gotschi et al., 2019, p. 95).

While Fishbein and Ajzen (1975, 1999) look at the influence of subjective norms on behaviour in general, Zukin and Maguire (1998) apply the theory to the specific behaviour of consumer purchase intentions and find that subjective norms, in fact, influence consumer purchase intentions. In their study on purchase intentions for organic products of high school students from Vienna Gotschi et al. (2009) verify these findings while at the same time showing that this theory holds true for the special product category of organic products - which are at the focal point of this study. As mentioned above, they find that, in particular, primary socialization - meaning the subjective norm within the family but also among friends - as compared to secondary socialisation (the normative influence of teachers), has a significant influence on the student’s purchase intentions for organic products (Gotschi et al., 2009, p. 95). The findings regarding the influence of different types of socialisation (i.e. primary and secondary socialisation) might be particularly apparent and relevant for high school students who are still comparatively dependent and influenced by their family (Gotschi et al., 2009). However, disregarding the type of socialisation they are based on, one can still conclude that subjective norms in fact influence consumer purchase intentions of organic products. This is also backed up by Ruiz de Maya et al. (2011) who reveal that the main factor leading to variations among segments is, in fact, subjective norms. They find that all countries are to some extent influenced by subjective norms regarding their intentions to buy organic products. The countries that were influenced the most by subjective norms were the ones that scored highest on the cultural dimension. One exception, however, constitutes Spain, where consumers were not influenced by subjective norms. Accordingly, Spain also scored lowest on the cultural dimension. Germany - the country which will be at the focus of this study - scored moderate on the cultural dimension and corresponding to this was also moderately influenced by subjective norms (Ruiz de Maya et al., 2011, p. 1773). In addition, even when attitudes towards buying sustainable products are comparatively low, pressure from pressure
from peers, which can be seen as subjective norms, can, however, lead to strong purchase intentions of those products (Vermeir and Verbeke (2006, p. 1774).

Some researchers such as Armitage and Conner (2001, p. 471) who conducted a meta-analysis regarding the efficacy of the TBP model find that the construct of subjective norms is generally weak in predicting behavioural intentions. However, they also find that this might be due to many researchers using a single item measures which are less reliable than multi-item measures. (Armitage and Conner (2001, p. 478). Therefore, and due to the multitude of studies conducted on the particular product category of sustainable, green or organic products which find subjective norms as a strong predictor/influence of green consumption - as outlined above - it is reasonable to include the construct of subjective norms in this study.

Derived from this, the second hypothesis of this study reads as follows:

**H2: Consumers’ subjective norms have a positive effect on their purchase intentions for organic personal care products.**

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2.2.3 PERCEIVED BEHAVIOURAL CONTROL

The concept of perceived behavioural control has been introduced by Ajzen in 1985 and has been defined as “people’s perception of the degree to which they are capable of, or have control over, performing a given behaviour” (Fishbein and Ajzen, 2010, p. 64). In other words PBC indicates the “subjective degree of control over performance of the behaviour itself” (Ajzen, 2002, p. 668). The concept, thus, can be seen as the answer to the consumer’s question “Can I do it” when considering to behave in a certain way (Yzer, 2012, p. 101). Despite some perceptions that the concept should be used to refer to external factors only (Terry, 1993), Ajzen (2011, pp. 445-446) clearly outlines that both internal and external factors that impede or facilitate a certain behaviour are considered in the concept of perceived behavioural control. These factors include the possession of required information, mental and physical skills, social support, emotions, coercion as well as external constraints or hindrances (Ajzen, 2011, p. 446).

As outlined above, perceived behavioural control constitutes one construct making up the theory of planned behaviour which sees it as co-determining behavioural intentions alongside attitudes and subjective norms (Ajzen, 1988). Partially, perceived behavioural control is also seen as co-determining the actual behaviour alongside behavioural intentions. The rationale for this is that if everybody could perform the behaviour, meaning that behavioural control is high for everybody, the intentions alone are enough to explain actual behaviour (Ajzen, 2002, p. 665-666). As this is most often not the case, one can argue that intentions and perceived behavioural control together influence actual behaviour (Ajzen, 2011). However, as this study focuses on behavioural intentions only, this relationship will not be further considered.

There are many discussions about what the concept of perceived behavioural control denotes and whether it actually describes two concepts rather than one. Sparks and Guthrie (1997) distinguish between perceived difficulty (denoting how easy or difficult it is for a person to perform a certain behaviour) and perceived control (denoting how much control the person has over the behaviour) which resembles the notion of Terry and O’Leary (1995) who distinguished between external and internal factors or
resources. While seeing perceived behavioural control as a sufficient concept for itself, Ajzen (2002) and Ajzen and Fishbein (2010), too, note that it is a latent construct consisting of two aspects being perceived capacity and perceived autonomy that are mostly, though not always congruent (Ajzen, 2002; Yzer, 2012, p. 103). It thus, makes sense to separate both aspects if their relative importance for purchase intentions is to be measured. However, if one’s aim is to simply measure the influence of perceived control, the construct does not need to be divided into the two aspects (Yzer, 2012, p.110).

The construct has also been compared to the similar concept of self-efficacy developed by Bandura - both by Ajzen as well as other authors such as Manstead and Eekelen (1998), Yzer (2012) or Terry and O’Leary (1995). Self-efficacy has been defined as “people’s beliefs about their capabilities to produce performances that influence events affecting their lives” (Bandura, 1995, p. 434). Whereas Ajzen (2011) sees self-efficacy as supportive to his construct of perceived behavioural control, other researchers try to make distinctions between the two concepts and aim to detect one concept’s superiority over the other in predicting behavioural intentions. As mentioned earlier Terry and O’Leary (1995) proposes that perceived behavioural control should be seen as referring to external constraints on behaviour whereas self-efficacy measures internal control factors. Findings about one concept’s superiority in predicting behavioural intentions yielded varying results. Whereas McCaul et al. (1993) showed that perceived behavioural control was a better measure in predicting intentions, Manstead and van Eekelen (1998) found self-efficacy to better predict behavioural intentions. Thus, research on the superiority of either of the two concepts has not yielded any unequivocal results and the two constructs exhibit significant overlap. Therefore, this study will only consider the concept of perceived behavioural control - as originally introduced by Ajzen (1985) - and views self-efficacy as being part of it as no significant doubt of this concept could be found.

Regarding the context of green consumption behaviour, perceived higher prices and fewer availability of organic or green product can be identified as the main aspects of the concept of perceived behavioural control influencing purchase intentions of organic products, thus, constituting external constraints (Ruiz de Maya et al., 2011, p. 1768). This notion is supported by findings from Vermeir and Verbeke (2006) who find that the relationship between attitudes and purchase intentions of organic products are influenced by factors such as price. Thus, one can conclude that even though consumers have positive attitudes towards organic products - or for the specific context of this study for organic personal care products - their purchase intentions might, however, not reflect these attitudes as they perceive organic personal care products as more expensive than their conventional counterparts and, thus, believe that they cannot afford them.

Mandese (1991), too, finds that consumers become more price-sensitive regarding the purchase of organic or green products, when being in an economic recession. These findings are reflected in the reasons most often stated by consumers for not purchasing organic toiletries with 65% of consumers stating that they are more expensive than conventional toiletries and 15% of consumers finding them not as widely available as compared to non-organic toiletries (Mintel, 2013). These findings further supports the argument that price or rather perceived financial resources constitute the most important aspect of perceived behavioural control in the context of purchasing organic personal
care products. This notion will be important for the construction of constructs to measure perceived behavioural control which will be done in a later part of this study.

The influence of perceived behavioural control on purchase intentions of organic products has been shown by Kim and Chung (2011) who find that perceived behavioural control is positively related to purchase intentions of organic body lotion/shampoo and that it also mediated the relationship between attitude and purchase intentions in this context. Ruiz de Maya et al. (2011), too, find that perceived perceived behavioural control has a positive impact on purchase intentions of organic products, although perceived control shows to exert the least influence over purchase intentions as compared to the two other antecedents attitudes and subjective norms.

Thus, one can argue that perceived behavioural control, and in particular perceived financial capabilities and availability of organic personal care products, influences consumers’ purchase intentions for organic personal care products.

Therefore, the third hypothesis reads:

**H3: Consumers’ perceived behavioural control has a positive effect on consumers’ purchase intentions of organic personal care products.**

### 2.3 KNOWLEDGE

The concept of knowledge has in particular been paid attention to in research regarding pro-environmental and health-related behaviour. There are various studies examining the influence of environmental knowledge on environmental attitude (e.g. Arcury, 1990, Bradley et al. 1999, Ramsey and Rickson, 1976) or pro-environmental behaviour (e.g. Jensen, 2002). Research regarding the influence of knowledge on health related behaviour, on the other hand, has looked at how health information influences health-promoting behaviour (Bettinghaus, 1986) or how nutrition education influences students’ food and nutrition attitude as well as their dietary behaviour (Byrd-Bredbenner and O’Connel, 1984). The notion that knowledge affects one’s attitude and behaviour is well in line with Fishbein and Ajzen’s Theory of Reasoned Action (1975). They argue that one’s beliefs - which can be linked to the concept of knowledge insofar as belief can be seen as defeasible knowledge (Shoham and Moses, 1993) functions as the basis for one’s attitudes. Attitudes, in turn, influence one’s behavioural intentions (Fishbein and Ajzen, 1975).

This study considers two types of knowledge as being influential towards one’s attitude and behavioural intentions which include environmental literacy as well as product related knowledge. Product related knowledge can further be divided into consumers’ past experience with organic personal care products as well as their expertise regarding the product category. In the following, these different types of knowledge will be examined in greater detail.

#### 2.3.1 ENVIRONMENTAL LITERACY

The term environmental literacy - often also referred to as environmental knowledge - has generally been used to describe peoples “knowledge, understanding, attitudes and
active involvement” regarding the environment (Marcinkowski, 1991). A comprehensive definition of the term environmental literacy which considers all of the aforementioned aspects has been provided by Roth (1992, p. 17) who sees it as “the capacity to perceive and interpret the relative health of environmental systems and to take appropriate action to maintain, restore or improve the health of those systems”. In fact, Roth emphasises the importance of defining environmental literacy in terms of observable behaviour. Thus, environmental literacy comprises the continuous search for connections and interrelations between objects and events as well as the continuous choice among alternatives that have the least impact on the environment (Roth, 1992). Roth, furthermore, identifies six main aspects of environmental literacy being “environmental sensitivity, knowledge, skills attitudes and values, personal investment and active involvement” (Roth, 1992, p. 18). Roth’s definition is well in line with the Scottish Office’s (1993) definition of environmental literacy which also stresses its components “knowledge” and “understanding” of the environment.

Increased awareness of environmental issues and interest in the environment can be traced back to the 1960’s which can be seen as the time of “awakening” after the negative impact of production (processes) and consumption as well as environmental disaster were discovered (Roth, 1992; Ahmad et al, 2010). The 1970’s can then be characterized as the time to “take action”, the 1980’ as the “accountable” time and the 1990’s as the time of the “power in the marketplace” (Ahmad et al., 2010).

Nowadays, environmentalism and awareness about environmental issues are more present than ever and many studies find environmental literacy to impact pro-environmental behaviour (PEB) (e.g. Ahmad et al., 2010, Vining and Ebreo, 1990). For example, Ahmad et al. (2010) found that the more knowledge consumers have about the environment, the more likely they are to engage in pro-environmental behaviour. This is supported by Vining and Ebreo (1990) who show that recyclers - representing people that engage in pro-environmental behaviour - were more knowledgeable about the environment and the field of recycling than non-recyclers, as well as Chan (1999) who shows that greater knowledge influences greater PEB through affect and intentions. Kaiser et al. (1999) also find that 40% of the variance of ecological behaviour intentions were due to environmental knowledge and environmental values. In general, green consumption - which is the focal point of this study - can be seen as one aspect of pro-environmental behaviour besides recycling, saving energy, reducing waste etc. and as being motivated by PEB (Ahmad et al, 2010). Thus, one can argue that findings on pro-environmental behaviour in general can be transferred to the more specific way of behaving environmentally friendly, namely the purchasing of green or organic products. This is backed up by Amyx et al, 1994) finding that higher levels of environmental knowledge were related to consumers’ willingness to pay more for green products, thus, relating environmental knowledge directly to the specific form of environmental behaviour of green consumption.

However, findings regarding the influence of environmental literacy/knowledge on environmental behaviour, or pro-environmental behavioural intentions are not unequivocal as Laroche (2002) finds in his study on English-Canadians and French-Canadians the relationship between environmental knowledge and environmental attitude as well as the relationship between environmental knowledge and environmental behaviour to be either weak or not significant. Gotschi (2009), too, was not able to show any relationship between the knowledge about the environment of high
school students and their shopping behaviour when purchasing organic products. In their meta-analysis Hines et al. (1987) found a correlation of in average 0.30 between environmental knowledge and environmental behaviour which can be considered moderately strong.

Most of the aforementioned studies considered the relationship between knowledge and behaviour or behavioural intentions. However, according to the theory of planned behaviour (Ajzen, 1985) outlined above, behaviour and behavioural intentions are mediated by attitude, subjective norms and perceived behavioural control - all aspects that were not considered in the previously mentioned studies. Thus, one can argue that inconsistencies in the findings of studies dealing with the influence of environmental literacy/knowledge on pro-environmental behaviour/behavioural intentions might be due to unconsidered factors that also influence PEB such as subjective norms and perceived behavioural control and that the influence of environmental knowledge/literacy on PEB is rather indirect (Schahn and Holzer, 1990). The influence of environmental knowledge/literacy on environmental attitude has, however, been shown by Tayci and Uysal (2012) who find a significant relationship - however, at a low level. Furthermore, Bradley et al. (1999) found a significant relationship between environmental knowledge and environmental attitude in their study in which they assessed high school students’ knowledge and attitudes about the environment before and after taking part in a 10-day environmental science course. The study reveals that students with higher knowledge scores had a more positive environmental attitude than students with less environmental knowledge (Bradley et al., 1999). This notion that knowledge influences attitude is further supported by Rosenberg and Hovland (1960) who found cognition to be one component of attitude.

Furthermore, it is important to distinguish between abstract knowledge and concrete knowledge as suggested by Schahn and Holzer (1990). Whereas abstract knowledge measures factual knowledge about the object environment (e.g. “Ecology is best described as...”; “What is the harmful effect of phosphates on marine life?”) (Maloney and Ward, 1973, p. 584) concrete knowledge measures knowledge about environmental behaviour that can actually be applied to the protection of the environment (e.g. “Which of the listed products is least harmful for the environment”; “How can you save water?”) (Schahn and Holzer, 1990, p. 772). Whereas abstract knowledge was revealed not to have any influence on the relationship between attitudes and behaviour, concrete or applicable knowledge did (Schahn and Holzer, 1990). Even though Schahn and Holzer considered the moderating effect of knowledge on the relationship between attitude and behaviour, this study will consider the influence of knowledge on attitude due to the aforementioned reasons. This is supported by Kaiser (1999) who states that factual knowledge about the environment was found to have a considerable weaker relationship with environmental attitudes and behaviour than does knowledge about ecological behaviour (i.e. what can be done to protect the environment). McDevitt (2007) even finds ethical consumption is mostly impeded by peoples’ little knowledge about the consequences of their purchasing choices. Thus, one can argue that when measuring the effect of environmental knowledge on environmental attitude, it is important to consider knowledge about the ecological behaviour - also referred to as concrete or applicable knowledge - instead of knowledge about the object (environment) which can be termed abstract knowledge.

Thus, derived from the preceding discussion, the fourth hypothesis of this study reads:
H4: Consumers’ environmental literacy has a positive effect on their

a.) attitudes towards purchasing organic personal care products.
b.) purchase intentions of organic personal care products.

2.3.2 PRODUCT RELATED KNOWLEDGE

Product related knowledge is usually referred to as consumer knowledge. However, in order to avoid confusion with the term “consumer knowledge” chosen in this study for clustering the concepts, environmental literacy and consumer knowledge, the term product related knowledge will be used in this study instead of consumer knowledge.

Whereas product related knowledge used to be regarded as a unidimensional construct, scholars nowadays tend to classify it into two dimensions of expertise and familiarity (Alba and Hutchinson, 1987). Sometimes, the dimension of expertise is further broken down into the two dimensions of subjective and objective expertise (Cordell, 1997). This study considers product related knowledge as a two-dimensional construct as measures on subjective and objective have been found to load heavily on the same factor (Mitchel and Dacin, 1996, p. 234).

Familiarity can be defined as “the number of product related experiences that have been accumulated by the consumer” (Alba and Hutchinson, 1987, p. 411). It, thus, comprises exposure to advertisements, search for information, encounters with salespeople, choice and decision making, buying, using the product in different situations (Alba and Hutchinson, 1987, p. 411). Consumer expertise, on the other hand, comprises cognitive structures - which constitute knowledge about product attributes - and cognitive processes, meaning decision rules that facilitate action on the knowledge about product attributes. Generally, the increased levels of the dimension familiarity also lead to increased consumer expertise. (Alba and Hutchinson, 1987) Research has shown that product category experts have a greater amount of domain knowledge which also differs from the knowledge of less savvy consumers in their content and structure (Chi et al., 1982). Thus, consumers who are more knowledgeable in a domain have the ability to choose the right product for a certain usage situation and to use and maintain it appropriately (Bucks, 1985). While some studies indicate that product category experts are able to name more subcategories than novices (Rosch et al., 1976), these findings are not unequivocal as Lurigio and Carroll (1985) found less knowledgeable consumers to refer to more subcategories than experts. However, while no unambiguous conclusions can be drawn about differences in the amount of subcategories known by novices and experts, prior studies agree that experts do have a greater amount of knowledge about these subcategories than novices (Lurigio and Carrol, 1985; Murphy and Wright, 1984; Sujan et al, 1988).

Furthermore, previous research indicates that product class familiarity - also referred to as past experience with a product category - influences purchase intentions of that product class (Kim and Chung, 2011; D’Souza et al., 2006). Kim and Chung even found this relationship to hold true for organic shampoo and body lotion (Kim and Chung, 2011). This is in line with various studies showing that past experience - and in particular frequent past behaviour - strongly influences future behaviour or behavioural intentions as past behaviour results in learning which influences future behaviour (e.g.
Mullen et al. 1987; Bentler and Speckart, 1979). In addition, past experience has been found to influence attitudes - or perceptions - of that product category (D’Souza et al., 2006). This is particularly true for the product category of green or organic products as D’Souza’s study on purchase intentions for green products shows. Thus, one can argue that consumer knowledge in form of past experience influences consumer attitude and purchase intentions of organic personal care products.

Derived from this, the fifth hypothesis reads:

**H5:** Consumers’ past experience with organic personal care products has a positive effect on their

a.) attitude towards purchasing organic personal care products.

b.) purchase intentions for organic personal care products.

No research, as yet, has focused on the relationship between consumer expertise of a product category and their attitudes and purchase intentions of that product category and, thus, no conclusions have been drawn about this relationship. However, as consumer expertise increases as familiarity increases one can argue that consumer expertise (Alba and Hutchinson, 1987) as being one dimension of consumer knowledge, also influences consumers’ attitudes towards and purchase intentions of the respective product category.

Thus, the sixth hypothesis reads:

**H6:** Consumer expertise about organic personal care products has a positive effect on their

a.) attitudes towards purchasing organic personal care products.

b.) purchase intentions for organic personal care products.

2.4 VALUES

A widely accepted definition of values has been provided by Rokeach (1973, p.5) who sees a value as “an enduring belief that a specific mode of conduct is personally or socially preferable to an opposite or converse mode.” Thus, values serve as guidelines helping to adapt to one’s environment as they constitute social cognitions (Vaske and Donnelly, 1999, p.524; Homer and Kahle, 1988, p.638). In contrast to attitudes, values are more stable and more difficult to change as they are the most central part of one’s belief system and, thus, are used to evaluate attitudes and behaviours (Rokeach, 1973).

In line with the value-attitude-behaviour hierarchy, Homer and Kahle (1988) show that values are stronger related to attitudes than to behaviour while behaviour is, however, strongly influenced by attitudes showing that attitude has a mediating role. In fact, various studies on different behaviours have revealed that differences in values lead to differences in attitudes and behaviours such as cigarette smoking (Grube et al, 1984), religion (Feather, 1984), or cheating on examinations (Hensehl, 1969). Thus, this study expects consumers possessing different value orientations to exhibit different attitudes towards and behaviours regarding the purchase of organic personal care products. The value orientations that are important or influential for attitudes towards purchasing...
organic personal care product and purchasing intentions of organic personal care products can be identified to be environmental consciousness, health consciousness and animal-welfare concern. This is supported by a qualitative study conducted by Makatouni (2002) about consumers’ underlying reasons for buying organic products who finds life values centred around health, animals and the environment to be the key motivating factors for purchasing organic products. In the following, these values will be examined in more detail.

2.4.1 ENVIRONMENTAL CONSCIOUSNESS

Nowadays consumers are becoming more aware of the global warming and how it is affecting the world. They understand that the destruction or pollution of natural resources like air, water or the forest, which are necessary for the survival of mankind, pose a great threat (Fransson & Gärling, 1999, p. 369). A survey conducted by Dembkowski and Hammer-Llyod (1994) even found that 82% of British citizens see the environment as an “immediate and urgent problem” showing the increased environmental concern. Fransson & Gärling (1999, p. 370) define environmental consciousness as “an evaluation of, or an attitude towards facts, one’s own behaviour, or others’ behaviour with consequences for the environment”. In other words, environmental concern can be both an attitude or value orientation (Fransson and Gärling, 1999, p. 370). Dunlap and Van Liere (1978) defined environmental concern as a general attitude of the people. It can refer to their emotions, willingness level and factual knowledge which can lead to behavioral intention including purchase intention of organic and natural products (Harris, 2007, found in Ahmad 2010).

Research has found that a relationship between positive environmental attitude and environmentally responsible behaviour – which includes environmentally responsible consumption - exists (Fransson and Gorling, 1999, p. 372). The increasing environmental consciousness is, in fact, reflected in the marketplace, as more and more environmentally friendly products arise and as consumers are realizing that their buying behaviour directly impacts the environment (Laroche et al., 2001). Consumers who are aware of the environment and possess knowledge about how a product can harm the environment have been found to be more likely to buy environmentally friendly products (Fransson and Gärling, 1999, p. 372, Schlegelmilch et al., 1996) These findings are supported by a survey carried out in late 80’s shows that people who care about their environment and are aware of pollution are the main buyers of the organic products (Roberts, 1991; Shetzer et al., 1991, found in Ahmad 2010). Grunert and Juhl (1995, p. 58) also show that an individual who is highly concerned about the environment is more likely to purchase organic foods. Laroche et al (2001) even show that environmentally concerned people are willing to pay more for the environmental friendly products when it comes to price because they know that the premium price charged is due to good reasons and environmental safety.

Deriving from the preceding discussion, one can assume that consumers’ who are highly environmentally conscious tend to have more positive attitude towards purchasing organic products and show stronger intentions to purchase organic products

Therefore, the following hypothesis for this study derived at:

**H7: Consumers’ environmental consciousness has a positive effect on their**
The modern agricultural practices have raised a lot of new questions in the mind of the consumers regarding health concerns. These concerns have been brought in the limelight due to excessive use of chemicals in the production which might harm the environment as well as the health of people (Baourakis, 2004, p 221). For example, chemical usage in growing plants and extracting from the same plant might contain traces of the harmful chemicals. Keeping this ideology in mind people tend to prefer to buy organic products which are produced in a natural manner (Shamsollahi, et al., 2013, p. 95). The reason for this is that they perceive natural or organic products as being produced without chemicals or growth hormones, thus, having less pesticides and fertilizers residues (Makatouni, 2002).

In particular health conscious people, meaning people who engage in healthy behaviours and who care about the desired state of well-being, have been found to consider purchasing organic products (Grankvist and Biel, 2001; Lockie et al., 2002; Becker et al., 1977; Newsom et al., 2005).

Especially in the context of purchasing organic food health concerns have been identified to be one of the most important motivational factors (Makatouni, 2002). Magnussen et al. (2003) even found health consciousness to be the strongest determinant of attitudes towards and purchase intentions of organic foods.

Also regarding the context of organic personal care products, health consciousness has been found to be one of the main factors influencing purchasing behaviour. This notion is showed by Mintel’s (2013) in which consumers state the most important reason for purchasing organic toiletries is that they are better for their health.

Therefore, one can assume that greater health consciousness leads to more favourable attitudes towards purchasing organic personal care products and stronger purchase intentions.

Thus, the following hypothesis can be derived at:

**H8: Consumers’ health consciousness has a positive effect on their**

- attitude towards purchasing organic personal care products.
- purchase intentions for organic personal care products.

Animal well-being is one of the expressions that humans possess with a lot of emotions (Webster, 2008 p.19). Treating animals like inmates in possession to take benefits from them and causing them great suffering has raised a lot of ethical issues and discussions (Oltenacu & Broom, 2010, p.13). To overcome unethical behaviour against animals
codes of conducts and description of good practices were established for better animal treatment (Oltenacu & Broom, 2010, p.13).

Concern about animal well-being has been found to be one of the factors affecting attitude and purchase intentions of organic products – but its influence has been found to be less influential than that of other factors (Harper and Makatouni, 2002; O’Reilly et al, 2013). In addition, Makatouni (2002) finds that animal well-being due to good living conditions add value to organic products.

According to Makatouni (2002) and Stanton and Guion (2010) animal well-being concern in the context of organic food often does not reflect ethical concerns but rather the assumption that products gained from animals that were treated well are of better quality. This is not the case for organic natural care products or cosmetics where ethical issues are the only reasons for animal well-being concern. In fact, Johri and Shasakmontri (1998, p. 274) find that “not tested on animals” is one of the attributes seen as important when purchasing organic cosmetics. Bernués (2003) even finds that attributes like animal well-being standards have been given highest importance in consumers purchasing behaviour and European consumers have been revealed to be willing to pay premium for animal welfare-friendly products (Eurobarometer, 2007). In addition, Tsakiridou et al. (2010) shows that consumers are more concerned about animal well-being, e.g. who think the state should inspect all parts of the value chain, are more likely to buy organic products. Thus, one can argue that consumers’ concern about animal well-being influences their attitudes towards and purchase intentions of organic personal care products.

Therefore, the following hypothesis can be derived at:

**H9: Consumers’ animal well-being concern has a positive effect on their**

a.) attitude towards purchasing organic personal care products.

b.) purchase intentions for organic personal care products.

### 2.5 Conceptual Model

Based on findings from the literature review, one can conclude that different types of consumer knowledge as well as consumers values have a positive effect on their attitudes towards buying organic personal care products (OPCP). Consumer knowledge includes environmental literacy as well as product related knowledge which, in turn, comprises past experience and product expertise. The consumers’ values that have been found to have a positive effect on their attitudes towards buying organic personal care products include environmental consciousness, health consciousness and animal well-being concern. Furthermore, as outlined in the literature review, one can conclude that consumers’ purchase intentions of organic personal care products (OPCP) are positively affected by the above named factors as well as by consumers’ attitudes, their subjective norms, their perceived behavioural control. These findings are reflected in the eight hypotheses developed in the preceding sections.

The factors or constructs and their effects are shown in the conceptual model. The basis for this model has been Ajzen’s (1985) Theory of Planned Behaviour which has been
extended by adding knowledge factors as well as consumer values that are expected to have a positive effect on consumers’ attitudes towards buying OPCP as well as their purchase intentions for OPCP.

This study will assess these effects in two steps. The impact of consumers’ knowledge and their values will be tested in a first regression analysis. A second regression analysis will then be conducted to assess the impact of consumers’ knowledge, their values, attitudes towards buying OPCP as well as their subjective norms and perceived behavioural control on their purchase intentions for OPCP. This conceptual model can be seen in figure 3.

FIGURE 3. CONCEPTUAL MODEL
3. SCIENTIFIC METHOD

This chapter informs about the authors’ pre understanding and research philosophy. Following, the research approach taken and the research strategies being followed are outlined. In addition, the theories chosen for the study are justified and sources used are scrutinised.

3.1 PRE UNDERSTANDING

According to Bryman and Bell (2011, p. 414) previous knowledge and experience are likely to influence researchers during the working progress. As being students enrolled at the Master Program of Marketing Management at Umeå University both of us have acquired previous knowledge in the field of Marketing while taking part in courses such as Consumer and Market Analysis, Consumer Behaviour, Strategizing, Planning and Processes or Perspective on Strategy. These courses have helped us to develop and expand our knowledge about marketing. In particular, the field of consumer behaviour was of major interest to us. Therefore we decided to conduct our study in this area of Marketing. It can be argued that our marketing background influences our choice of sources and theory or our way of argumentation. However, we argue that this disposition helps us in being able to better analyse marketing phenomena and find relevant theories.

Neither of us has had any considerable expertise of the organic industry or consumer behaviour in this industry prior to this study. However, we accommodated for any shortages in expertise about the industry by extensively studying different articles and studies from various sources published in this field of research. Moreover, we argue that our impartiality benefits this study insofar as it increases our objectivity.

Both of us come from different countries with different cultural backgrounds. As Malterud (2001, p. 484) finds that a researcher’s background significantly influences the research in various ways, we argue that our differing cultural background benefits this study. Due to our different cultural dispositions and ways of thinking we are able to critically reflect on our work and view it from different angles.

3.2 RESEARCH PHILOSOPHY

According to Saunders et al. (2007) research philosophy focuses on the development of knowledge and the nature of that knowledge. Research philosophy is a basic set of beliefs that guide action (Lincoln and Guba, 1990, p.17). Certain assumptions are the basis of any research and these assumptions include values, nature of reality and human knowledge (Bryman & Bell, 2007, p.16). Due to these assumptions the researcher is able to develop research questions and finalize methods which will be used to interpret the findings. While conducting a research, the researcher can have certain philosophical chances regarding epistemology and ontology (Bryman & Bell, 2007, pp. 16; 22).
3.2.1 ONTOLOGY

According to Bryman and Bell (2007, p. 22) and Saunders et al. (2009, p. 110) ontology is concerned with the nature of social entities as well as reality. Two main positions regarding ontology exist – the objectivist and the constructions stance - which mainly differ on whether social phenomena exist external to social actors or whether they are constructed by them (Bryman and Bell, 2007, p. 22; Saunders, et al, 2009, p.110).

Supporters of the objectivist position see social phenomenon and their meanings as existing independently of the social actors (Bryman and Bell, 2007, p. 22) Therefore, nature should be described independently from an observer’s viewpoint (Johansson, 2011, p.183). Objectivism can be explained as the nature’s description is independent and it differs from person to person. “Objectivism portrays the position that social entities exist in reality external to social actors concerned with their existence” (Saunders et al, 2011, p.110).

On the contrary, constructionism – which is often also referred to as subjectivism - sees social phenomena or social entities as being created by social actors. Thus, social interactions of actors produce social phenomena and categories (Sanders et al, 2009, p. 111, Bryman and Bell, 2007, 22). This position supports the notion that social phenomena and categories are constantly changing as they are produced by social interactions (Bryman and Bell, 2007, p.23).

We identify with the objectivist view of the nature of social entities as we believe that social phenomena like green consumption, attitudes, values or knowledge exist independently from social actors should, therefore, be described independently from their views. One might argue that social phenomena considered in this study like attitudes or values vary for different social actors. However, this simply means that their level or direction differs but not the concept itself.

3.2.2 EPISTEMOLOGY

Bryman and Bell (2011) define epistemology as the nature of knowledge and the researcher’s perception of that knowledge. Saunders et al, (2009, p. 112) state that “Epistemology concerns what constitutes acceptable knowledge in the field of study”. It is also said that epistemology deals with “the nature of knowledge, its possibility, scope and general basis” (Crotty, 1998, p.8). Epistemology has three positions; positivism, interpretivism and realism which are mainly differing on whether methods of natural sciences can be applied to social sciences (Bryman & Bell 2007, pp. 16-18, Saunders et al. 2009, p. 113).

Positivism is an epistemological stance that supports the application of methods of the natural sciences for studying social reality (Bryman and Bell, 2011, p. 15). This means that social phenomena can be measured using methods from natural sciences which allows for replication of the results and that results might resemble findings from previous research (Saunders et al, 2009, p. 114). Positivism allows research to test theories and develop these theories on the basis of its research. Researchers having a positivist stance regarding epistemology are likely to collect data on an observable reality and aim to find regularities and causal relationships that can be generalized.
In accordance with our ontological view that social phenomena are external facts that cannot be influenced by social actors we have a positivist epistemological stance. We believe that knowledge about social phenomena can only be derived at through observation and by using methods from natural from to gather facts and, thus, generate and test hypotheses, make generalizations and find causal relations. Due to our positivist epistemological stance we have used existing theories to create our own conceptual model, gathered data and analysed this data to find causal relations between the factors included in the conceptual model.

Interpretivism constitutes an alternative stance to the positivist orthodoxy. This view stresses that social entities cannot be compared to objects of the natural sciences and thus different research methods than the ones used for natural science are required for studying social phenomena (Bryman and Bell, 2007, p. 17). This is supported by Saunders et al, (2009, p. 116) who state that “interpretivism advocates that it is necessary for the researcher to understand the differences between humans in our role as social actors”. Therefore, researchers having an interpretivist stance are preoccupied with understanding human behaviour rather than explaining it – which is the aim of a researcher following a positivist stance. We reject the interpretivist view as our aim is to explain consumers purchasing behaviour of organic personal care products instead of trying to understand it.

The third epistemological position that can be hold is realism which is similar to the positivist view insofar as it also finds the application of methods from natural sciences to the social world acceptable (Bryman and Bell, 2007, p. 18) In contrast to the positivists who believe that their conceptualisation of reality actually composes reality, realists believe that the conceptualisation of reality is only one way of how reality can be seen (Bryman and Bell, 2007, p. 18). We believe that the findings of this study actually reflect the effects on consumers’ attitudes towards purchasing and their purchase intentions of OPCP and will not just constitute one way of seeing it. Therefore, we identify with the positivist stance and reject the position supported by realists.

3.3 RESEARCH APPROACH

Based on our epistemological and ontological positions, the deductive research approach has been chosen for this study. Saunders et al, (2009, p.124) define deduction as a “research approach involving the testing of a theoretical proposition by the employment of research strategy specifically designed for the purpose of testing”. According to Bryman and Bell (2007, p.11) “deductive theory represents the most common view of the nature and the relationship between the theory and research”. In the process of deduction (figure 4) previous theory is examined and hypotheses are developed upon this theory (Bryman and Bell, 2007, p.11). With reference to the hypotheses data is then being collected which, in turn, is used to test the proposed hypotheses. Depending on whether or not the proposed hypotheses are being accepted or rejected, the theory will be revised (Bryman and Bell, 2007, p.11). The deductive approach generally applies quantitative research strategies (Saunders et al, 2009, p.126).
The alternative research approach to deduction is induction. According to Shiu et al, (2009, p.278) “inductive research is an investigation that collects and analyzes primary data, from which to generate hypotheses and test for creating new theories or extending existing ones”. The inductive approach is usually being adapted when little is known about a problem and when this problem is to be explored further or understood (Bryman and Bell, 2009, p.13). In fact, developing an understanding of a phenomena rather than investigating its cause-effect links constitutes the strength of the inductive approach (Sauners, 2009, p. 126). It generally involves qualitative research strategy (Saunders et al, 2009, p.126). The emphasis of the inductive approach is generating theory which reflects the view of social reality as constantly shifting due to social interacton (Bryman and Bell, 2009, 27).

As outlined above, in accordance with our ontological and epistemological stances, the deductive research approach has been chosen. The phenomenon of green or organic consumption has already gained considerable attention from research. Hence, different theories about consumers’ purchase intentions of organic products have already been developed. Therefore, our aim is not to contribute to a deeper understanding of the social phenomenon of organic consumption but to test its cause-effect links by combining previous theory conducted in this field. An inductive approach, however, would not allow for the investigation and testing of causal relationships between and effect of various factors such as attitudes, knowledge or values on consumers’ purchase intentions of OPCP.
3.4 RESEARCH STRATEGY

Out of the two strategies that can be adopted for researcher, the quantitative strategy has been chosen over the qualitative one. As outlined in the previous section while quantitative strategy is generally associated with a deductive approach a qualitative strategy is usually being followed when an inductive approach is being adapted (Saunders, 2009, p. 126). Accordingly, the quantitative research strategy is being followed in this study. In addition, the quantitative research strategy is usually associated with the positivist epistemological stance and the objectivist ontological stance as it entails methods used for natural science. This further justifies the adoption of this strategy for this (Bryman and Bell, 2007, p. 28). The fundamental differences between the two strategies – which will be outlined in the following – can also be seen in table 1.

According to Shiu et al (2009, p.171) “Quantitative research is the [research strategy] which places heavy emphasis on using the formalized standard questions and predetermined response options in questionnaires or survey administered to large number of respondents”. It emphasizes quantification in the data collection and analysis and is usually associated with research methods such as surveys and experiments (Bryman and Bell, 2007, p. 28). This makes it highly suitable for the deductive approach in order to test proposed hypotheses (Bryman and Bell, 2007, p. 28). It involves sampling, questionnaires design, constructs measurement, development, scale measurement and statistical data analysis where reliability and validity of data are serious criteria for final evaluation (Shiu et al, 2009, p.172).

In contrast, the main emphasis of qualitative research is on words rather than quantifications and is, thus, used for the generation rather than testing of theories (Bryman and Bell, 2007, p. 28). This is in accordance with Shiu et al, (2009, p. 173) who find that “qualitative research is the research used in exploratory designs to gain preliminary insights into decision problems and opportunities”. The most common methods used for data collection in qualitative research are interviews, focus groups and ethnography and the data is comprised of words, texts and personal experience (Bryman and Bell, 2011, p. 28). By solely using qualitative strategy a final course of action cannot be recommended (Shiu et al, 2009, p.173).

As outlined above, the quantitative research strategy has been adapted in this study. This choice has been made as the quantifiable data yielded by means of this strategy will allow for the testing of the proposed hypotheses and for the determination of causal relationships and effects between the constructs considered in this study. The establishment of causal relationships between concepts would have, however not been possible when following a qualitative research study, thus, making it less suitable for this study.
TABLE 1. DIFFERENCES BETWEEN QUANTITATIVE & QUALITATIVE RESEARCH STRATEGIES
(Source: Bryman and Bell, 2009, p. 27)

<table>
<thead>
<tr>
<th>Principal orientation to the role of theory to research</th>
<th>Quantitative Approach</th>
<th>Qualitative Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deductive; testing of theory</td>
<td></td>
<td>Inductive; generation of theory</td>
</tr>
<tr>
<td>Epistemological considerations</td>
<td>Positivism</td>
<td>Interpretivism</td>
</tr>
<tr>
<td>Ontological considerations</td>
<td>Objectivism</td>
<td>Constructivism</td>
</tr>
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3.5 CHOICE OF THEORIES

The conceptual model developed in this study is based on different theories that are outlined in the theoretical frame of reference. The combination of theories from different studies, thus, allows for the contribution to new theory.

First of all, the concept of green consumption and its origins and development are introduced to put the phenomenon of organic consumption – which is at the focal point of this study – into context.

Following, the main behavioural theory considered in this study – the Theory of Planned Behaviour – is introduced as well as its predecessor the Theory of Reasoned Action. The TRA introduced by Fischbein and Ajzen in 1975 and its extension the TPB developed by Ajzen in 1985 constitute the prevailing theories in behavioural research and have been applied and verified to explain various kinds of behaviour (Ajzen, 1991). In addition, the TPB has found wide application in the context of organic purchasing behaviour (e.g. Rennings, 2013, Arvola et al., 2008). Thus, it can be argued that the TPB is a suitable theory and basis for this study.

The concept of knowledge has been chosen to be integrated in the conceptual model as a determinant for consumers’ attitudes as this effect has not only been shown by Fishbein’s TPB in form of beliefs but also by various study’s that investigate the influence of environmental knowledge on environmental attitudes and pro-environmental behaviour (e.g. Arcury, 1990; Bradley et al., 1999, Jensen, 2002). When scanning the literature it becomes apparent that different kinds of knowledge are important for the context of organic consumption being environmental literacy and product related knowledge which according to Alba and Hutchinson (1987) comprises past experience with a product and product expertise. Thus, in order to make this study comprehensive all three knowledge constructs were considered.

Furthermore, values were included in this study. Even though values were not explicitly considered in the TPB by Ajzen (1985) they were, however found to be important determinant of attitudes and behaviour by Homer and Kahle (1988) who introduced the value-attitude-behaviour hierarchy. In addition, values have been found to be influential
in the context of organic consumption (e.g. Makatouni 2002). Therefore, the concept of values has been chosen to be included in this study.

Thus, by using the prevailing behavioural theory – the TPB – as the basis of this study and including other constructs that were found to be important for the specific behaviour of organic consumption such as knowledge and values, it can be argued that this study a comprehensive array of theories and concepts relevant for consumers behaviour and the particular context of organic consumption.

3.6 CRITICISM OF SOURCES

Both primary and secondary data were used for this thesis. According to Shiu et al (2009, p.63) data from primary sources constitute “first-hand” raw data that has not been interpreted before. Secondary data already exist in a recognizable format and has been interpreted (Shiu et al., 2009, p. 63).

The primary data used in this study include the marketing database Datamonitor, of which data regarding the size and growth of organic markets were obtained, as well as the participants of this study. The secondary data used during this research work mainly came from scientific articles but also include some relevant books, and published reports from renowned marketing databases such as Mintel. The academic articles used in this study were collected from databases such as EBSCO (Business Source Premier), EMERALD Group Publishing, Google Scholar as well as the database from the University of Umeå University. Using different databases for finding academic articles allowed for a better and more comprehensive finding from a broader array of articles. For the secondary data used in this study, mainly primary sources were considered. However, at times when it was impossible to access primary sources of data used in this piece of research secondary sources were fallen back on after careful checking of their credibility.

In order to find relevant articles and research material we have used the following keywords: green products, organic products, , organic personal care products, organic toiletries organic cosmetics, ecological products, consumer knowledge, attitude, purchase intentions, theory of planned behaviour, theory of reasoned actions, research methodology, marketing of organic products, green cosmetics, environmental friendly products, animal welfare, health concerns, subjective norms, perceived behaviour, past experiences, qualitative and quantitative research, consumer behaviour and green consumerism.

Only academic articles were considered that were cited by a number of other academic articles to ensure that only credible and trustworthy sources were used in this study. In addition, sources that were referred to in the academic articles used in this thesis were studied in order to better understand theories and concepts and decrease the risk of misinterpretation or passing on invalid information.
4. PRACTICAL METHOD

This chapter outlines the methods and techniques used to conduct the research. These include the sampling technique applied, how data has been collected and how the questionnaire has been designed.

4.1 RESEARCH DESIGN

According to Bryman and Bell (2007, p. 39) the research design constitutes a structure guiding how a research method is conducted and how the data yielded is analysed. It clarifies the study type which in conformity with Saunders et al. (2009, p. 139) can be exploratory, descriptive or explanatory as well as the sub-type which can be experimental, cross-sectional, longitudinal, comparative or a case study design (Bryman and Bell, 2007, p. 44). While the purpose of exploratory studies is to discover “what is happening; to seek new insights; to ask questions and to assess phenomena in a new light” (Robson, 2002, p. 59), descriptive studies aim to “portray an accurate profile of persons, events or situations” (Robson, 2002, p. 59). The objective of explanatory studies, on the other hand, is to determine causal relationship between variables (Saunders et al., 2009, p.140). Considering the research question and purpose of this study, choosing an explanatory research design appears logical as the aim of this study is to establish the causal relationship between the independent variables “knowledge” and “values” of consumers and the dependent variables “attitudes” and “purchase intentions”. Even though the exploratory research design would have allowed for the discovery of new insights and a better understanding of the phenomena (Saunders et al., 2009), it would have not been suitable to test the causal relationship between various variables. As the aim of this study is to test the casual relationship between consumers’ attitudes towards purchasing OPCP, their purchase intentions of OPCP and various independent factors, the exploratory research design was not chosen for this study. The same applies to the descriptive research design which would have only allowed for portraying consumers’ view on different factors but making inferences about the relationship between these factors would have not been possible.

Regarding the sub-type for this study, the cross sectional design has been chosen, which is also often called social survey design (Bryman and Bell, 2007, p. 55). A cross-sectional design entails collecting data on more than one case at a single point in time with the aim to yield quantitative data on two or more variables which will then be used to find patterns of association (Bryman and Bell, 2007, p. 55). Therefore, this research design allows for the fulfilment of this study’s purpose to determine the relationship between consumers’ knowledge and values and their attitude towards and purchasing intentions for organic personal care products. One can argue that this objective could have also been achieved by following an experimental or longitudinal design - in particular as both of these designs would have allowed the researcher to make better causal inferences on the relationship between the variables if combined with a quantitative strategy (Bryman and Bell, 2007, p.56, 60). However, the experimental research design requires the independent variable to be manipulated in order to determine whether or not it influences the dependent variable (Bryman and Bell, 2007, p. 44). However, the independent variables used in this study being consumers’ knowledge and values but also their attitudes, social norms and perceived behavioural control are difficult to manipulate which excludes the experimental design as a possible
research design for this study. The longitudinal design, on the other hand, is not suitable for this study as the amount of time and costs required by this research design exceeds the time and resources available for this study (Bryman and Bell, 2007, p. 60). Therefore, as outlined above, the cross-sectional design has been chosen for this study which also corresponds well with the quantitative research strategy and philosophical stances of the authors of this study (Bryman and Bell, 2007, p. 59).

4.2 DATA COLLECTION METHOD

For this study it has been chosen to collect primary data instead of secondary data. Whereas primary data is specifically collected for the purpose of the study, secondary data makes use of data collected in previous studies which are being re-analysed (Glass, 1976, p. 3). Secondary data offers considerable benefits as it is often cheaper and less time-consuming than collecting primary data and in some cases the quality of data might be higher (Ghauri and Gronhaug, 2005). However, for this study, the advantages of primary data clearly outweigh the benefits offered by secondary data. These include that primary data is collected specifically for this study, while secondary data has been conducted for a different purpose and, thus, often does not exactly match the need of the study at hand (Saunders et al., 2009, p.269-270). This particularly applies to this study, as - to the authors best knowledge - no previous research has collected data that measures consumers’ knowledge and values as well as their attitudes towards and purchase intentions of organic personal care products. Furthermore, using primary data in this study allows for a better control over the quality of the data (Saunders et al., 2009, p. 272).

As outlined above, the cross-sectional research design has been chosen for this study. The most common research methods for a cross-sectional research design constitute structured interviews and self-administered surveys (Easterby-Smith et al. 2008; Robson, 2002; Bryman and Bell, 2007, p. 55). For this study, the self-administered survey and its particular form of online questionnaires has been chosen as the data collection method. This choice has been made due to the various benefits the self-administered survey offers over the structured interview. Self-administered surveys are cheaper and quicker to administer and there is no interviewer effect, meaning that respondents answer differently depending on the characteristics of the interviewer. In addition interviewer variability - meaning that different interviewers might ask questions in a different order or way - is being avoided (Saunders, 2009, p. 144; Bryman and Bell, 2007, p. 242). Moreover, self-administered surveys - and in particular its specific form the online questionnaire - offer greater convenience to the respondents, as they can complete the questionnaire comfortably from home, their work etc. (Bryman and Bell, 2007, p. 242). One can argue, that conducting structured interviews would offer the benefits of being able to probe respondents (Bryman and Bell, 2007, p. 242). However, as the nature of this study is not exploratory this particular feature of the structured interview is not relevant for this study. Also, one can argue that structured interviews offer the possibility of asking more and difficult questions as opposed to self-administered interviews where - due to respondent fatigue and the missing possibility of prompting - only few questions can be asked (Oppenheim, 2000; Bryman and Bell, 2007, p. 242). However, as can be seen in the following section dealing with the survey construction, it is possible to collect the required data by asking few questions. In addition, the disadvantage entailed by a self-administered survey of not knowing who answers the question has been circumvent by including questions about the respondents
demographics which gives the researchers a better picture of the participants (Bryman and Bell, 2007, p. 242).

As mentioned above, the online questionnaire as being a particular form of the self-administered survey has been chosen as the data collection method for this study. The online questionnaire, which is often also referred to as a web survey, has been chosen over the postal questionnaire as it offers greater convenience to the respondents. It is quicker and cheaper to administer than its traditional postal counterpart (Sax et al., 2003, p. 410) and is beneficial for reaching a geographically dispersed sample - which is the case for this study as the population includes all female German consumers (Saunders, 2009, p. 365). In addition, the online questionnaire has been chosen over the E-mail questionnaire as it is more suitable for reaching large groups of online user whereas the E-mail questionnaire shows advantages when trying to reach smaller, homogenous online users (Sheehan and Hoy, 1999). As the population for this study is rather large and heterogeneous as it comprises women of all age groups and socio-demographic backgrounds, this choice appears reasonable.

4.3 QUESTIONNAIRE CONSTRUCTION

The online questionnaire was designed to only constitute mandatory closed ended questions. Even though closed questions bear the disadvantage of loss of spontaneity and missing out on the yielding of unexpected, interested responses that were not considered in the predetermined answers, this type of questions was chosen due to the various benefits it offers. One of these advantages constitute the easiness with which answers can be processed (Bryman and Bell, 2007, p. 260), and that answers can be easily compared, thus, allowing for a better determination of relationship between variables - which is essential for this study (Bryman and Bell, 2008, p. 261). In addition, closed questions are easier to complete than open ended questions, therefore, helping to circumvent respondent fatigue and increasing response rates (Bryman and Bell, 2008, p. 262).

The questionnaire comprises a section asking about the respondents’ demographics in order for the researchers to get a better picture of their sample and to ensure that the sample is representative of the population. The remaining sections of the questionnaire include questions about each construct of the conceptual model (e.g. attitudes towards buying organic personal care products, environmental knowledge, health consciousness, perceived behavioural control etc.).

Apart from the demographic section and items measuring consumers’ attitudes towards purchasing organic personal care products, 5 point Likert scales were used for all other questions, featuring scale labels such as strongly agree/strongly disagree, highly knowledgeable/not at all knowledgeable, definitely/not at all, very likely/not at all likely, a lot/not at all. For measuring attitudes semantic differential rating scales were used as these have been found to be beneficial for determining underlying attitudes (Saunders, 2009, p. 381). The original five-point format has been chosen for this study over the modified six-point forced choice format and the seven-point free-choice format. This decision was made as respondent were found to have difficulties in distinguishing between more than five values on a rating scale (Saunders, 2009, p. 379). In addition, odd-numbered Likert scales have been chosen as they have been found to
be more empirically valid than forced-choice formats containing even number of choices (Ray, 1990, p. 398).

Scales are considered to be a coherent set of questions or items acting as indicators of a construct or concept (Corbetta, 2003), thus, constituting appropriate question designs to measure the concepts of this study’s conceptual model. Questions measuring the concepts of the conceptual model were taken or adapted from previous studies measuring these concepts. According to Bryman and Bell, (2007, p. 274) this is beneficial as the measurement qualities of questions taken from previous studies has been proven, thus, increasing the validity and reliability of the study.

As outlined above, to measure consumers attitudes towards purchasing organic personal care products, semantic differential rating scales in accordance with Ajzen (2002, p. 5) who finds this type of scale to be particularly appropriate for measuring consumers’ attitudes. Thus, five items were taken from Bansal and Taylor (2002) such as “For me, buying organic personal care products would be… a bad idea/a good idea, harmful/beneficial etc.”

In order to assess consumers’ subjective norms, three items were adapted from Rhodes and Courneya (2003) whereby the term “most people in my social network” was rephrased to “most people who are important to me” in order to make the question easier to understand. This choice was inspired by Conner et al. (1999, p. 1681) who used this expression in their questions measuring subjective norms regarding alcohol consumption.

Consumers’ perceived behavioural control was assessed using three items adapted from Han et al. (2010) (e.g. “Whether or not I buy organic personal care products is completely up to me.”) Three items (e.g. I intend to purchase organic personal care products within the next four weeks) were adapted from Michaelidou and Hassan (2008) in order to measure consumers’ purchase intentions for organic personal care products.

Three items were adapted from Hsu and Roth (1988) to measure consumers’ environmental literacy (e.g. “To what extend do you feel that you are knowledgeable about how your consumption affect the environment.”).

In order to assess consumers past experience with and expertise regarding organic personal care products seven items were adapted from Mitchell and Darcin (1996) (e.g. “I have frequently purchased organic personal care products.” or “I have a clear idea about which characteristics are important in providing me maximum usage satisfaction.”).

Consumers’ environmental consciousness was measured by applying Dunlap’s et al. (2000) revised New Environmental Paradigm Scale for measuring environmental values which includes 15 items (e.g. “Humans are severely abusing the environment.”). This scale has found application in various studies to measure environmental concern (e.g. Albrecht et al., 1982; Widegren, 1988; Edgell and Nowell, 1989) and, thus, constitutes a valid and reliable measure to assess consumers’ environmental concern.
In order to assess consumers’ health consciousness, Gould’s (1990) health consciousness scale, consisting of nine items (e.g. I reflect about my health a lot.) has been applied. Seven items have been taken from Kendall et al. (2006) in order to measure consumers’ animal well-being concern (e.g. “Increased regulation of the treatment of animals in farming is needed). The questionnaire including all constructs and items can be viewed in detail in appendix 1.

### 4.4 SAMPLING TECHNIQUE

The population of this study, meaning all units which are of interest for this study (Bryman and Bell, 2007, p. 182), comprises all female German consumers aged 18+. Ideally, data is being collected for all units of a population, which would be called a census (Bryman and Bell, 2007, p. 182). However, due to the immense size of this population a census becomes impossible to implement for this study which means that sampling needs to be used (Saunders, 2009, p. 210). A sample denotes the segment of a population that is chosen to be investigated (Bryman and Bell, 2007, p. 182).

Sampling can be done using one of two techniques, being probability sampling and non-probability sampling. Whereas when using a probability sampling technique each unit of the population has the same chance to be chosen for investigation, this is not the case for non-probability sampling (Bryman and Bell, 2007, p. 182). When using a non-probability sampling technique units are not selected randomly and therefore some units have a greater chance to be chosen than others (Bryman and Bell, 2007, p. 182). For this study, the non-probability sampling technique and its particular form, convenience sampling, has been applied. One can argue, that its counterpart the probability sampling technique offers considerable benefits as it allows for a generalization of the findings to the whole population which can only be done with caution when using a non-probability sample due to the bias in selecting respondents (Bryman and Bell, 2007, p. 192). However, due to time and financial restrictions and limited access to respondents as well as to a sampling frame, convenience sampling constituted the only feasible sampling method for this study. This is due to the fact that it facilitates the process of data collection (Saunders, 2009, p. 241). Even though convenience sampling generally restricts the generalizability of the study (Bryman and Bell, 2007, p. 198), one can argue that due to the various age groups and socio economic backgrounds of the respondents - as can be seen in the descriptive statistics in the next section - this study reaches a variety of respondents. Therefore, even though it should be done with caution, some inferences can be drawn from this study that can at least partly be applied to the whole population.

The population under scrutiny comprises all female German consumers. As outlined before, German female consumers were chosen as subjects for this study as German consumers have traditionally been ranked to be most concerned about the environment (Peattie, 2010, p. 199), about health risks in their food consumption (Kafka and van Alvesleben, 1998) and to be most interested in organic products (Brunsoe and Bredahl, 1997). Only women have been included as respondents in this study as they are more likely to buy cosmetics and have been found to show greater interest in green products than men (Mintel, 2013; Wandel and Bugge, 1997; Davies et al., 1995). As convenience sampling was chosen as the study’s sampling technique, the sampling frame comprised the authors’ female German acquaintances.
4.5 DATA COLLECTION

Prior to the data collection, the online questionnaire was translated into German in order to make its completion as convenient as possible for the respondents and, thus, to increase the response rate (Bryman and Bell, 2007, p. 244). A pilot testing was thereafter conducted to refine the questionnaire and prevent potential problems regarding its completion and test the questions’ face validity (Saunders, 2009, p. 394). The online questionnaire was tested on five respondents which were afterwards taken out of the sampling frame. Based on the feedback received from these test-respondents minor alterations concerning the wording of some question were made in order to increase their comprehensibility and, thus, face validity.

After the completion of the pilot testing, the online questionnaire was made available to sample on Friday, 2nd May 2014, and was open for completion for ten days until Monday, 12th May 2014. The online questionnaire was mailed to 215 individuals via the social network Facebook and to 50 respondents via Email in order to be able to capture respondents from older generations who are less likely to be active on Facebook. A reminder was sent to every individual of the sample on Friday, 9th May 2014.

In total 207 responses from the sample consisting of 265 individuals were received. Accordingly, the response rate for this study is 79%. According to Bryman and Bell (2007, p. 243) and Saunders (2009, p. 220) high response rates are important to increase a study’s validity. For online questionnaires response rates have been found to be similar or slightly lower than for postal questionnaires (Sax et al., 2003; Kaplowitz, 2004). Thus, one can argue that the application of Mangione’s (1995, 60-61) classification of bands of response rates to postal questionnaires can be applied to online surveys, too. The response rate of this survey being 78% would therefore fall into the response rate category “very good” ranging from 70-85% (Mangione, 1995, 60-61). The online service “Google Forms” was used to collect the data and the data analysis was conducted by using the statistical analysis program SPSS.

4.6 DATA ANALYSIS

One common mistake emphasised by Bryman and Bell (2007, p. 348-349) which is made by many researchers constitutes considering how to analyse the data only after the data collection has been finished. If the way the data will be analysed is not considered at the stage of constructing the questionnaire or when designing the coding frame, problems are likely to arise during the actual data analysis (Bryman and Bell, 2007, p.
In order to prevent these problems, the way the data is to be analysed has been carefully considered prior to the data collection and will be outlined in this section. The data analysis techniques used in this study include descriptive statistics, Cronbach’s Alpha, Pearson Correlation as well as multiple regression analysis. As mentioned before, the analyses have been conducted by means of the statistical analysis program SPSS.

4.6.1 CRONBACH’S ALPHA

As all of the constructs considered in this study were measured by more than one item it is required to test their internal consistency. The internal consistency of a measure, also called its internal reliability, describes how well the items of a measure relate to each other, i.e. measure the same thing (Bryman and Bell, 2007, p. 163). In order to assess the internal reliability of this study’s concepts, the Cronbach’s alpha test has been conducted. Cronbach’s alpha is a widely recognised and used test to assess the internal reliability (Bryman and Bell, 2007, p. 164; Saunders et al, 2009, p. 374). For example, the concept “environmental consciousness” was measured by means of Dunlap’s et al. (2000) revised NEP scale which includes 15 items. By combining these items and dividing them by their number (in this case 15) the construct can be established and then tested regarding its internal reliability by performing Cronbach’s alpha test. The coefficient calculated by Cronbach’s alpha will range from 1 representing a perfect internal reliability to 0 which means there is not internal reliability. As a threshold to determine whether or not a measure is reliable, 0.7 will be accepted - as proposed by Schutte et al. (2000, p. 56).

4.6.2 DESCRIPTIVE STATISTICS

In order to get an overview of and summarise the results of the data gathered in this study, descriptive statistics were used (Shiu, 2009, p. 513). Descriptive statistics usually comprise the number of respondents, a measure of the central tendency (e.g. mean, median) indicating the centre of the distribution, as well as a measure of dispersion (e.g. range, standard deviation/variance) reflecting if respondents had similar or varying opinions (Shui, 2009, p. 532-533). Accordingly, these measures have also been included in the descriptive statistics of this study to summarise the results of the data collection.

4.6.3 PEARSON CORRELATION

As for this study, the relationships between the different constructs are of main interest. Thus, besides assessing whether a relationship between the concepts exists, it is also important to evaluate its strength and direction. A commonly used technique to quantitatively measure the covariation between two ratio variables is the Pearson correlation coefficient (Bryman and Bell, 2007, p. 362; Shiu, 2009, p. 554). This coefficient can range from -1.00 to 1.00 with -1.00 representing a perfect negative relationship and 1.00 a perfect positive relationship between two variables and 0 denoting no relationship. Therefore, the higher the coefficient, the stronger are the two constructs related (Shiu, 2009, p. 554). When assessing the relationship between two variables, this study will accept the threshold about the strength of correlations coefficients suggested by Shiu et al. (2009, p. 555). These rules of thumb consider no relationship between two variables when the Pearson correlation coefficient lies
between .00 to ± .20, a weak relationship with a coefficient ranging from ± .21 to ± .40, a moderate relationship from ± .41 to ± .50, a strong relationship from ± .51 to ± .60, and a very strong relationship from ± .81 to ± 1.00 (Shiu, 2009, p. 555).

4.6.4 MULTIPLE REGRESSION ANALYSIS

As the purpose of this study is to examine the influence of different types of consumer knowledge and values on their attitudes and purchase intentions, it is necessary to examine several independent variables (e.g. environmental literacy, past experience, product expertise etc.) on a dependent variable (e.g. attitude). This can be achieved by using a multiple regression analysis which, thus, will be used in this study (Shiu et al., 2009, p. 583). The regression analysis assesses the predictive, linear relationship between variables and therefore allows for predicting values of a dependent variable by using the values of one or more independent variables (Saunders et al., 2009, p. 462). As outlined before, in this study two regression analyses will be conducted. The first regression will analyse effect of the independent variables environmental literacy, past experience, product expertise, environmental consciousness, health consciousness and animal welfare concern on consumers’ attitude to purchase organic personal care products. The second regression model analyses the effect of the preceding independent variables as well as attitudes towards purchasing organic personal care products, consumers’ subjective norms and their perceived behaviour control on consumers’ purchase intentions for buying OPCP.

4.7 ETHICAL CONSIDERATION

Ethical issues have in recent years gained increasing attention in research practice (Saunders et al., 2009, p. 168). As in this study data has been collected by means of an online questionnaire, increased caution has to be paid to ethical issues as consumers are have more concerns about the confidentiality of the survey due to suspicions about their administration (Smith, 1997). The commonly identified ethical issues that need to be considered by researchers - and, thus in this study - include whether harm would be done to participants, whether informed consent is lacking, whether the privacy of participants is invaded and whether the study was deceiving (Diener and Crandall, 1978, p. 7). During the execution of this study and in particular during the data collection utmost attention has been paid to these ethical issues to prevent ethical damage being done to respondents in any kind of way.

Harm to participants includes physical harm, harming their development of self-esteem or future career as well as putting respondents under stress or forcing them to perform objectionable behaviour (Bryman and Bell, 2007, p. 133, Diener and Crandall, 1978, p.19). None of the preceding applies to this study as the questions asked are of harmless nature that would not place participants in a stressful or reprehensible situation.

Furthermore, informed consent includes informing participants about the nature of the study so that he/she can make an informed decision about whether or not to participate (Bryman and Bell, 2007, p. 137). In this study, informed consent is being ensured by giving a clear outline of the purpose and content of the study in the introductory section at the beginning of the questionnaire. By doing so, the respondents were given all information needed to make informed choice about their participation in the study.
Further, the information given to the participants in the introductory section of the questionnaire prevents the deception of the participants as the content and purpose of the study as well as the questionnaire were revealed before the actual participation.

In addition, particular care has been applied throughout the whole study and in particular during the questionnaire construction and data analysis in order to not invade the respondents’ privacy. All data is treated absolutely anonymously as names or extensive demographic information that would have allowed for an identification of the respondents were not being enquired in the questionnaire. Furthermore, questions that would have potentially made respondents feel invaded in their privacy, such as questions about their income, were deliberately avoided.

Overall, these preventative actions and the careful consideration of ethical issues during the entire execution of the study allowed for the elimination of any potential ethical problems. Therefore, it was ensured that no abjection in any kind of way was done to the participants of this study.
5. EMPIRICAL FINDINGS

In this chapter, the results from the data collection will be presented. These findings will form the basis of the analysis and discussion outlined in the next chapter.

5.1 DEMOGRAPHICS

In order to assess who the respondents of this study’s sample are, two questions were designed to enquire demographic data. These included their age and their level of professional education. Furthermore, an additional question about their sex included in order to ensure that only female consumers were included in the study.

As can be seen in figure 6 more than half of the sample’s respondents (52%) were aged 18-24. The second largest age group constitute the 45-54 year-olds making up around 20% of the sample, which is followed by the age group of the 25-34 year-olds amounting for around 14% of the sample. The age groups of the 35-44 year olds and 55-64 year olds both account for around 6% of the sample while only around 1.5% and 0.5% were made up of respondents being aged 65-74 and 75 or older, respectively. Thus, one can conclude, that even though all age groups were covered in this study there is a clear dominance of the 18-24 and 45-54 age groups, reflecting the sampling technique chosen being convenience sampling.

FIGURE 6. AGE DISTRIBUTION
Table 2 gives an overview over the levels of professional education the sample’s respondents possess. While the majority (41%) of respondents had a degree from a university (“Hochschulabschluss”) or a university of applied sciences (“Fachhochschulabschluss”), 19% have completed an apprenticeship. Reflecting the large number of 18-24 year-olds, 17% of the samples respondents are still in education. 12% graduated from a “Fachschule”, which is comparable to a professional or technical school, while 2% promoted and 4% do not have an educational attainment. 5% of the sample’s respondent indicated that they have an educational attainment other than the predetermined choices.

<table>
<thead>
<tr>
<th>Educational Attainments (GER/ENG)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ohne beruflichen Abschluss / no educational attainment</td>
<td>4</td>
</tr>
<tr>
<td>Lehre / apprenticeship</td>
<td>19</td>
</tr>
<tr>
<td>Fachschulabschluss / degree from a professional or technical school</td>
<td>12</td>
</tr>
<tr>
<td>Fachhochschulabschluss/Hochschulabschluss / degree from a university or a university of applied sciences</td>
<td>41</td>
</tr>
<tr>
<td>Promotion / promotion</td>
<td>2</td>
</tr>
<tr>
<td>Noch in Ausbildung / still in education</td>
<td>17</td>
</tr>
<tr>
<td>Sonstiges / Other</td>
<td>5</td>
</tr>
</tbody>
</table>

TABLE 2. LEVELS OF PROFESSIONAL EDUCATION (%)

5.2 CRONBACH’S ALPHA

As outlined in the previous chapter, Cronbach’s Alpha tests were conducted in order to assess the internal reliability of the study’s measures. As can be seen in table 3, all measures except for one showed Cronbach’s Alpha coefficients higher than 0.7 which is the threshold indicating whether or not a measure should be seen as reliable (Schutte et al., 2000, p. 56). Only the measure for perceived behavioural control showed a Cronbach’s Alpha coefficient of 0.575. Even after removing the first item, the coefficient only increased to 0.612 which is still insufficient for accepting it as a reliable measure for future analyses. Thus only one item was kept to measure consumers’ perceived behavioural control namely “I have the resources and ability to buy organic personal care products”. This item was chosen as it has frequently been used in previous study to assess respondents’ perceived behavioural control (e.g. Kim and Chung, 2011). In addition lack of monetary resources related to perceived higher prices of organic products have frequently been found to be an important factor impeding green consumption and thus, consumption of organic products (Mintel, 2013; Bray et al., 2011).
Constructs | Cronbach’s Alpha Coefficient
--- | ---
Attitude | 0.886
Subjective Norms | 0.756
Perceived Behavioural Control | One item
Purchase Intentions | 0.965
Environmental Literacy | 0.833
Product Experience | 0.913
Product Expertise | 0.923
Environmental Consciousness | 0.783
Health Consciousness | 0.843
Animal Well-Being Concern | 0.767

**TABLE 3. CRONBACH’S ALPHA COEFFICIENT**

### 5.3 DESCRIPTIVE STATISTICS

Descriptive statistics were calculated in order to get an overview of the results of the data collection. To assess the central tendency of each construct their means were calculated and to evaluate the dispersion of the constructs - meaning how much the opinions of the respondents regarding that construct varied - their standard deviations were included. The mean and standard deviation of each construct can be seen in table 4.

The means of the different constructs ranged from 2.54 (subjective norms) to 4.35 (attitudes). Standard deviations showed values ranging from 0.51 (environmental consciousness) to 1.36 (purchase intentions). It is noteworthy that on average attitudes towards purchasing OPCP are positive (4.35) and that the level of agreement among the respondents on this construct is comparatively high as it exhibits the second lowest standard deviation (0.66). Purchase intentions for OPCP, however, are on average only moderate with respondents exhibiting the highest level of disagreement on this construct as its standard deviation is the highest of the constructs under investigation (1.36). It is also striking that consumers’ self-assessed product related knowledge about OPCP is on average relatively low (2.82 for past experience and 2.75 for product expertise). However, product related knowledge also varies highly among participants as the standard deviations for past experience (1.15) and product expertise (1.14) are comparatively high.

In general, the respondents exhibited strong values regarding all three value constructs. However, on average, consumers showed a slightly stronger concern for animal-being (4.24) than for the environment (3.93) or their health (3.59).
<table>
<thead>
<tr>
<th>Constructs</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude</td>
<td>4.35</td>
<td>0.66</td>
</tr>
<tr>
<td>Subjective Norms</td>
<td>2.54</td>
<td>0.88</td>
</tr>
<tr>
<td>Purchase Intentions</td>
<td>3.00</td>
<td>1.36</td>
</tr>
<tr>
<td>Perceived Behavioural Control</td>
<td>3.69</td>
<td>1.28</td>
</tr>
<tr>
<td>Environmental Literacy</td>
<td>3.43</td>
<td>0.94</td>
</tr>
<tr>
<td>Past Experience</td>
<td>2.82</td>
<td>1.15</td>
</tr>
<tr>
<td>Product Expertise</td>
<td>2.75</td>
<td>1.14</td>
</tr>
<tr>
<td>Environmental Consciousness</td>
<td>3.93</td>
<td>0.51</td>
</tr>
<tr>
<td>Health Consciousness</td>
<td>3.59</td>
<td>0.70</td>
</tr>
<tr>
<td>Animal Well-Being Concern</td>
<td>4.24</td>
<td>0.80</td>
</tr>
</tbody>
</table>

**TABLE 4. DESCRIPTIVE STATISTICS**

5.4 PEARSSON CORRELATION

The Pearson Correlation analysis was conducted in order to assess the strength and direction of the relationships between the different constructs. As outlined in the previous chapter, the rule of thumb for assessing the strength and direction of a relationship between two constructs proposed by Shui et al. (2009, p. 555) has been for this. Table 5 shows that most of the correlations were significant at the level of \( p < 0.01 \) while perceived behavioural control and purchase intentions correlated at a significance level of \( p < 0.05 \). Eleven correlations between different constructs were not significant.

All significant relationships were positive. Most of the constructs showed weak relationships. However, attitudes towards OPCD showed moderate correlations with a number of constructs including purchase intentions, environmental literacy, past experience and product expertise. In addition, purchase intentions for OPCP yielded strong correlations with both product related knowledge constructs, namely past experience and product expertise. These two constructs are also moderately related to environmental literacy. Furthermore, past experience and product expertise show the strongest correlation, which reflects findings from Alba and Hutchinson (1987) who argue that product expertise increases when the experience consumers have with a product increases.
<table>
<thead>
<tr>
<th>Constructs</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
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<tr>
<td>Attitude (1)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subjective Norms (2)</td>
<td>.271**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Behavioural Control (3)</td>
<td>.063</td>
<td>.124</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchase Intentions (4)</td>
<td>.481**</td>
<td>.321**</td>
<td>.157*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Literacy (5)</td>
<td>.418**</td>
<td>.276**</td>
<td>.257**</td>
<td>.331**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Past Experience (6)</td>
<td>.453**</td>
<td>.391**</td>
<td>.281**</td>
<td>.798**</td>
<td>.499**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product Expertise (7)</td>
<td>.411**</td>
<td>.331**</td>
<td>.298**</td>
<td>.693**</td>
<td>.594**</td>
<td>.870**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Consciousness (8)</td>
<td>.301**</td>
<td>.039</td>
<td>.083</td>
<td>.228**</td>
<td>.274**</td>
<td>.217**</td>
<td>.185**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Consciousness (9)</td>
<td>.246**</td>
<td>.249**</td>
<td>.074</td>
<td>.200**</td>
<td>.131</td>
<td>.277**</td>
<td>.277</td>
<td>-.054</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Animal Well-Being Concern (10)</td>
<td>.341**</td>
<td>.108</td>
<td>-.037</td>
<td>.245**</td>
<td>.097</td>
<td>.246**</td>
<td>.225</td>
<td>.350**</td>
<td>.180**</td>
<td>1</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

TABLE 5. PEARSON CORRELATION

5.5 REGRESSIONS

In order to measure the effect of different types of consumers' knowledge, their values on attitudes towards purchasing OPCP and to measure the effect of the preceding factors as well as subjective norms and perceived behavioural control on purchase intentions of OPCP two multivariate regression analyses were conducted. The first regression was conducted to determine the effects of consumers' environmental literacy, past experience with OPCP, product expertise, environmental consciousness, health consciousness and animal welfare concern on their attitude towards OPCP. The second regression analysis analysed the effects of the preceding factors as well as their attitude towards OPCP, subjective norms and perceived behavioural control on their purchase intentions for OPCP.

5.5.1 REGRESSION 1 - ATTITUDES TOWARDS PURCHASING OPCP

The first regression was conducted using the “enter” method in the statistical analysis program SPSS. Overall the model can be considered statistically significant as the F-test is 17.09 and as it was significant at the level of p < 0.01 (appendix 2) meaning that the probability that these results occurred by chance is very low (Saunders et al, 2009, p.
In this model $R^2$ - as a measure describing the overall strength of a relationship between the dependent variable and the independent variables under consideration (Shiu, 2009, p. 585) - is 0.339 (appendix 2). This means that around 34% or one third of the variation in consumers’ attitudes can be explained by this regression model.

As can be seen in table 6, the results of the regression analysis show that five out of six independent variables have a significant positive effect on consumers’ attitudes towards purchasing OPCP as the probability that their results occurred by chance where less than 0.1 - which constitutes the minimum criteria for this study. These variables include consumers’ environmental literacy ($B = 0.184; p < 0.01$), their past experience with OPCP ($B = 0.184; p < 0.01$), environmental consciousness ($B = 0.153; p < 0.1$) health consciousness ($B = 0.120; p < 0.05$) and animal welfare concern ($B = 0.165; p < 0.01$). Product expertise had a significance level of $p = 0.317$ and was therefore considered as not significant.

As the different independent variables included in this model were measured by the same type of scale it is possible to consider the unstandardized coefficient instead of the standardised coefficient Beta which is used to assess relationships between variables that have been measured by different units of measurement (Shiu, 2009, p. 584). The unstandardized coefficient B indicates how big the influence of the independent variable is on the dependent variable (Shiu, 2009, p. 584) - in this case attitude towards purchasing OPCP. The regression model shows that both independent variables, environmental literacy and past experience with OPCP, exert the strongest effect on consumers’ attitudes towards purchasing OPCP with an unstandardized coefficient of 0.184 (table 6). This means that around 18% of variation in consumers’ attitudes towards purchasing OPCP can be explained by each, consumers’ environmental literacy and their past experience with OPCP. However, overall all significant independent variables exert a fairly similar influence on consumers’ attitudes towards purchasing OPCP with unstandardized coefficients ranging from 0.120 (health consciousness) to 0.184 (environmental literacy and past experience) (table 6).

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>1.670</td>
<td>.373</td>
<td>4.476</td>
<td>.000</td>
</tr>
<tr>
<td>Environmental_Literacy</td>
<td>.184</td>
<td>.051</td>
<td>.264</td>
<td>3.586</td>
</tr>
<tr>
<td>Product_Experience</td>
<td>.184</td>
<td>.068</td>
<td>.321</td>
<td>2.716</td>
</tr>
<tr>
<td>1 Product_Expertise</td>
<td>-.073</td>
<td>.073</td>
<td>-.127</td>
<td>-1.004</td>
</tr>
<tr>
<td>Environmental_Consciousness</td>
<td>.153</td>
<td>.083</td>
<td>-.119</td>
<td>1.840</td>
</tr>
<tr>
<td>Health_Consciousness</td>
<td>.120</td>
<td>.058</td>
<td>.128</td>
<td>2.087</td>
</tr>
<tr>
<td>Animal_Welfare_Concern</td>
<td>.165</td>
<td>.053</td>
<td>.200</td>
<td>3.135</td>
</tr>
</tbody>
</table>

*Dependent Variable: Attitude

**TABLE 6. COEFFICIENTS REGRESSION 1**

47
As with the first regression analysis, the second regression analysis was conducted using the “enter” method in the statistical analysis program SPSS. Overall the model can be considered statistically significant as the f-test result is 45.611 and as the model is significant at a level of 0.000 meaning that the probability that the results of this model occurred by chance is less than 0.0005 (appendix 3) (Saunders et al., 2009, p. 465). As R² for this model amounts 0.676 it can be seen as having a good fit, as around 68% (approximately two third) of variation in the dependent variable purchase intentions for OPCP can be explained by the independent variables considered in the model (appendix 3).

Table 7 shows that only two independent variables - attitude (p < 0.005) and past experience with OPCP (p < 0.005) - had a significant positive effect on consumers’ purchase intentions for OPCP while one independent - environmental literacy (p < 0.01) - had a significant negative effect on purchase intentions. The other six independent variables considered in this model - being subjective norms, perceived behavioural control, product expertise, environmental consciousness, health consciousness and animal well-being concern - exhibited significance levels greater than the minimum criteria of p < 0.1 and were therefore considered not significant.

It is noteworthy, that past experience with OPCP exerts by far the strongest influence on consumers’ purchase intention exhibiting an unstandardized coefficient B of 0.845. In contrast, attitudes towards purchasing OPCP show an unstandardized coefficient B of 0.374 and environmental literacy B = -0.240.

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
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<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
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<tr>
<td>(Constant)</td>
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<td>0.591</td>
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<tr>
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<td>1.052</td>
</tr>
<tr>
<td>Health_Consciousness</td>
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<td>-0.047</td>
<td>-1.068</td>
</tr>
<tr>
<td>Animal_Welfare_Concern</td>
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<td>0.079</td>
<td>-0.014</td>
<td>-0.298</td>
</tr>
<tr>
<td>Perceived Behavioural Control 3</td>
<td>-0.052</td>
<td>0.046</td>
<td>-0.049</td>
<td>-1.135</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Purchase Intentions

TABLE 7. COEFFICIENTS REGRESSION 2

As the results of the second regression analysis showed that - contradictory to what was assumed in the hypothesis - environmental literacy has a negative instead of a positive
effect on consumers’ purchase intentions for OPCP, a further simple regression analysis was conducted (appendix 4). This regression analysis comprised purchase intentions of OPCP as the dependent and environmental literacy as the independent variable. The purpose of this additional regression analysis was to explore whether environmental literacy would also have a negative effect on purchase intentions of OPCP when other factors were excluded. The model derived from this analysis was significant (F = 25.152; p < 0.01) having fit of $R^2 = 0.109$. The analysis revealed that environmental literacy has a significant positive effect on purchase intentions of OPCP when considered by itself (p < 0.005, unstandardized coefficient $B = 0.479$).
6. DISCUSSION

This chapter analyses and discusses the findings that were presented in the preceding chapter. In the end the findings of the discussion are summarised in the final conceptual model.

6.1 REGRESSION 1 - ATTITUDES TOWARDS PURCHASING OPCP

In the first regression analysis conducted in this study the effects of various factors on consumers’ attitudes towards purchasing OPCP were scrutinised. As derived at from the theoretical frame of reference the factors that were hypothesised to have an effect on consumers’ attitudes included different consumer knowledge factors - environmental knowledge, past experience with OPCP and product expertise - as well as consumers’ values such as their environmental consciousness, health consciousness and animal well-being concern. The regression analysis showed that all of these considered factors - with the exception of consumers’ product expertise - in fact have a positive effect on consumers’ attitudes towards purchasing OPCP as they were significant at the level p < 0.1. Therefore, the hypotheses H4a, H5a, H7a, H8a and H9a - which assumed that consumers’ environmental literacy, their past experience with OPCP, environmental consciousness, health consciousness and animal welfare concern have a positive effect on consumers’ attitudes towards purchasing OPCP - are being accepted. The hypothesis H6a - which assumed that consumers’ product expertise regarding the product category of OPCP has a positive effect on consumers’ attitudes towards purchasing OPCP - is, however, being rejected.

In particular, the two forms of consumer knowledge - their environmental literacy and their past experience with OPCP - were found to exert the greatest effect on consumer’s attitude towards OPCP, each exhibiting an unstandardized coefficient B of 0.184. The finding that environmental literacy positively affects consumers’ attitudes towards purchasing OPCP is in line with and backs up findings from previous research such as Arcury (1990) or Tyci and Uysal (2012) who conformably found a significant, however weak to moderate, relationship between environmental knowledge and environmental attitudes. Accordingly, the results of this study show that environmental literacy, in fact, moderately correlates with attitudes (Pearson correlation coefficient = 0.418) and around 18% of variation in consumers’ attitudes can be explained by their level of environmental literacy (unstandardized coefficient B = 0.184). At the same time, the results of this study verify that the findings of Arcury (1990) and Tyci and Uysal (2012) hold true for the field of green consumption and in particular for the product category of organic personal care products. Thus, one can argue that in order to improve consumers’ attitudes towards OPCP, one mean at the disposal of marketers to do so is to increase their environmental literacy. This can be achieved by educating consumers’ about the environmental consequences of their shopping behaviour for personal care products and how purchasing OPCP is beneficial for the environment. In addition, the finding that consumers’ past experience with OPCP positively affects their attitudes towards OPCP corresponds and supports findings from D’Souza et al. (2006) who reveal that consumers’ past experience with green products significantly influences their perceptions of and attitudes towards green products (D’Souza et al., 2006, p. 152).
The results of this study also reveal the important role of different consumer values regarding their formation of attitudes towards purchasing OPCP. Although all consumer values only exhibit a weak relationship with attitudes (Pearson correlation environmental consciousness = 0.301; health consciousness = 0.246; animal well-being concern = 0.341) they still each explain around 12% to 17% of variation in attitudes towards purchasing OPCP. These results support the findings by Homer and Kahle (1988) who reveal that different consumer values influence their nutrition attitude and, thus this study is able to verify the value-attitude relationship suggested by Homer and Kahle (1988) for the context of shopping for OPCP. The finding that consumers’ environmental consciousness has a positive effect on consumers’ attitudes towards purchasing OPCP corresponds with and supports findings from Kim and Chung (2011) who show that environmental consciousness positively influences consumers’ attitudes towards purchasing organic personal care products. In contrast to Kim and Chung (2011) this study was, however, able to prove that health consciousness has in fact a positive effect on consumers’ attitudes towards purchasing OPCP - which Kim and Chung (2011) failed to prove. These findings are, however, in line with other studies that also showed the positive influence of consumers’ health consciousness on their attitudes towards organic produce such as Magnusson et al. (2003). In contrast to Magnussen et al. (2003) who investigated consumers’ attitudes towards buying organic food, this study verified the relationship between consumers’ health consciousness and their attitudes for the context of organic personal care products. The same applies for the finding that consumers’ well-being concern has a positive effect on their attitudes towards purchasing organic personal care products. Whereas previous studies by Tsakirdou et al. (2010) only proved consumers’ concern with animal welfare as a motivational factor for purchasing organic food, this study was able to verify these findings for the context of organic personal care products.

Consumers’ product expertise, meaning the knowledge consumers have about the product category of organic personal care products, constitutes the only factor that has been revealed not to have a significant effect on consumers’ attitudes towards purchasing OPCP. As this study only evaluated consumers’ self-assessed product, further research should test the impact of objective consumer expertise on consumers’ attitudes towards purchasing OPCP. When consumer expertise is measured objectively and not based on consumer’s self-assessment this might yield different results, as product class information, i.e. product expertise, is a more important determinant of objective knowledge, while product-related experience is a more important determinant of self-assessed knowledge (White et al., 1994) As this study measured consumers’ product knowledge based on their self-assessment the findings might rather reflect their past experience than their actual product class knowledge which would also explain the very strong correlation between consumers’ past experience with OPCP and their product expertise (Pearson correlation coefficient = 0.870).

### 6.2 REGRESSION 2 - PURCHASE INTENTIONS FOR OPCP

In the second regression analysis the effects of the various factors on consumers’ purchase intentions for OPCP were scrutinised. As derived at from the theoretical frame of reference these factors included the factors that were also investigated regarding their effects on consumers’ attitudes towards OPCP being consumers’ environmental literacy, their past experience with OPCP, product expertise, environmental consciousness, health consciousness and animal well-being concern. In addition,
corresponding with the theory of planned behaviour (Ajzen, 1985) the effects of consumers’ attitudes toward purchasing OPCP, subjective norms and perceived behavioural control were included as independent variables in this regression analysis. The analysis revealed that three out of the nine considered independent variables actually have a significant effect on consumers’ purchase intentions for purchasing OPCP as they were significant at the level $p < 0.1$. The three factors that were found to exert a significant effect on consumers’ purchase intentions for OPCP are consumers’ attitudes, their past experience with OPCP and their environmental literacy. Consumers’ attitudes towards OPCP and their past experience were found to have a significant positive effect on consumers’ purchase intentions for OPCP. Therefore, the hypotheses H1 and H5b are being accepted.

In particular, consumers’ past experience with OPCP has been found to explain a considerable amount of variation in consumers’ purchase intentions (unstandardized coefficient $B = 0.845$). These findings are in accordance with and support evidence from previous research such as Kim and Chung (2011, 43) who show that past experience with organic cosmetics has a significant positive influence on consumers’ purchase intentions of organic cosmetics. In addition, the findings that past experience has a significant positive effect on consumers’ purchase intentions for OPCP correspond with findings from Bentler and Speckart (1979) who reveal that past behaviour - which is an essential part of past experience - is one of the most important predictors of future behaviour. Thus, when consumers’ have used, purchased or owned OPCP they appear to be more likely to intend to purchase them in the future. This knowledge is particularly important for marketers as it stresses the important role of product trial as a tool for marketing OPCP.

Consumers’ environmental literacy also showed a significant effect on their purchase intentions of OPCP. However, contrary to what was assumed in the hypothesis H4b consumers’ environmental literacy did not exert a positive effect on consumers’ purchase intentions of organic personal care products but affected it negatively. However, a simple regression analysis conducted including purchase intentions of OPCP as the dependent and environmental literacy as the independent variable, showed that environmental literacy in fact has a significant positive effect on consumers purchase intentions of OPCP. Therefore, one can conclude that the negative effect of environmental literacy on consumers’ purchase intentions for OPCP results from other factors considered in the second regression analysis that trigger changes in the final direct effects of environmental literacy. Further research will need to explore the effects of other factors on the final direct effects of environmental literacy.

Furthermore, the second regression analysis showed that different types of consumers’ values - including their environmental consciousness, health consciousness and animal well-being concern - do not exert a significant influence over their purchase intentions for OPCP and therefore the hypotheses H7b, H8b and H9b are being rejected. These findings support the value-attitude-behaviour hierarchy suggested by Homer and Kahle (1988) who argue that values influence attitudes but often do not directly relate to behaviour. This study backs up these findings as consumers’ values (environmental consciousness, health consciousness, animal well-being concern) were found to have a positive effect on consumers’ attitudes towards OPCP but not on their purchase intentions for OPCP - while attitudes were found to exert a significant influence on the latter. Thus, in accordance with Homer and Kahle (1998) attitudes towards OPCP can
be found to take on a mediating role between different values of consumers and their purchase intentions for OPCP. In their study Homer and Kahle (1998, p. 645) expressed the need to verify the value-attitude-behaviour hierarchy in situations other than the natural food shopping context - which was scrutinised in their research. This challenge has been achieved in this study as the value-attitude-behaviour hierarchy could be verified for the organic personal care product context.

As with attitudes, consumers’ product expertise, i.e. product class knowledge, was found to not exert an effect on their purchase intentions for OPCP either. As outlined in the discussion of the first regression analysis, further research should retest the effects of consumers’ product expertise on their purchase intentions for OPCP - but instead of measuring consumers’ self-assessed product expertise, their actual product class knowledge should be measured by an objective test. Such a retest might yield different results as self-assessed product expertise is often a better predictor of consumers’ past experience that their actual product class knowledge (White et al., 1994).

Furthermore, contrary to what was assumed in the hypotheses, subjective norms and perceived behavioural control were found to not have a significant effect on consumers’ purchase intentions for OPCP. The finding that subjective norms do not exert an effect on consumers’ purchase intentions of OPCP contradicts findings from Kim and Chung (2011) who, in fact, find that consumers’ subjective norms have a positive effect on their purchase intentions for organic body lotion and shampoo. The finding is, however, in line with results from Tarkiainen and Sundqvist (2006) as well as Han et al. (2010) that revealed that subjective norms do not affect consumers’ purchase intentions of organic food and stays in green hotels, respectively. Both studies found subjective norms to affect consumers’ attitudes - thus emphasising the mediating role of attitudes between subjective norms and perceived behavioural control. Therefore, further research needs to investigate whether this holds true for the purchase of OPCP of German consumers.

The finding that perceived behavioural control does not exert an effect on consumers’ purchase intentions for OPCP contradicts with results from Kim and Chung (2011) who find that perceived behavioural control is positively related to purchase intentions of organic body lotion and shampoo. However, the finding is in accordance with findings from Tarkiainen and Sundqvist (2006, p 817) who showed that perceived behavioural control has no effect on purchase intentions of organic food. Tarkiainen and Sundqvist argue that this is due to the fact that, nowadays, organic products are often not more expensive than their conventional counterparts. This holds true for the German cosmetic market in which organic personal care products become increasingly available - even in mainstream drug stores (Kiemi, 2010, p. 22). Often organic personal care products do not cost considerably more than their conventional counterparts - in particular as drug stores and supermarket chains increasingly offer organic private brands (Kiemi, 2010, p. 22). Limited availability and price-premiums are usually seen as crucial aspects in determining the behavioural control consumers’ feel they have over buying OPCP (Mintel, 2013). However, as OPCP are becoming increasingly available and often do not demand a price-premium, these aspects become less important when purchasing OPCP, thus, diminishing the role - and effect - of consumers’ perceived behavioural control in the purchasing OPCP which is reflected in the findings of this study.
6.3 REVISED CONCEPTUAL MODEL

Based on the analysis and discussion of the results of this study, the conceptual model presenting the hypothesized effects can be evaluated and revised. As shown by the preceding discussions of the results of the regression analyses, not all hypotheses were supported and, thus, not all of the considered constructs were found to have an effect on consumers’ attitudes towards and their purchase intentions of OPCP.

Consumers’ past experience with OPCP was found to be both an important predictor for their attitudes towards and purchase intentions of OPCP. The same applies to environmental literacy, which has been found to have an effect on both consumers’ attitudes and purchase intentions. However, while the effect of environmental literacy on attitudes was positive, the effect on purchase intentions was - unexpectedly - negative. This result has been found to occur due to undiscovered effects from other factors considered in the model that trigger changes in the final direct effects of environmental literacy. The three types of values - environmental consciousness, health consciousness and animal well-being concern - were found to have a significant effect on consumers’ attitudes towards purchasing OPCP, but not on their purchase intentions of OPCP. These were however influenced by attitudes, thus, revealing the mediating role of attitudes between consumers’ values and their purchase intentions of OPCP. Product expertise was found to not have an effect on either attitudes towards or purchase intentions of OPCP. In addition, subjective norms and perceived behavioural control did not exhibit an effect on consumers’ purchase intentions of OPCP.

All of the findings are shown in figure 7 whereby bold black arrows denote the effects that have been proven by the results of this study and dotted arrows denote the hypothesized effects that were not found to exist in the results of this study.
FIGURE 7. FINAL CONCEPTUAL MODEL
7. CONCLUSIONS

Considering the research question and purpose of this study, this chapter draws conclusions on whether the goals of this research were achieved. The findings are summarised and the study is assessed regarding the truth criteria. Finally, its limitations and opportunities for future research are pointed out.

7.1 GENERAL CONCLUSION

The purpose of this study was to examine the effect of different types of consumer knowledge and values on their attitude towards purchasing OPCP and their purchase intentions of OPCP. Four sub-purposes were developed in order to guide the research and to ensure the fulfilment of the study’s main purpose. The aim was to make a theoretical contribution regarding how different types of consumer knowledge affect consumers’ attitude towards and purchase intentions of organic products. In addition, as most studies on organic and natural products have focused on organic food, this study aims to enhance knowledge about the little studied field of organic personal care products which constitutes the second largest sector of the organic industry (Organic Trade Association, 2006).

In order to make a theoretical contribution, a conceptual model was developed in this study which was then tested. This was done by collecting statistical data by means of an online questionnaire which was conducted with German female consumers, as Germany has traditionally been ranked as one of the countries most interested in organic products (Brunsoe and Bredahl, 1997) and most concerned with the environment (Peattie, 2010, p. 199). The hypothesized effects between the constructs included in the conceptual model were then being analysed. These include consumers’ environmental literacy, past experience with OPCP, product expertise, environmental consciousness, health consciousness, animal well-being concern, subjective norms, attitudes towards purchasing OPCP, perceived behavioural control and purchase intentions of OPCP. By looking at the results of the statistical data analysis, it is now possible to answer the research question and address the sub-purposes of this study:

What kind of impacts do different types consumer knowledge and values have on consumers’ attitudes towards purchasing organic personal care products and their purchase intentions of organic personal care products?

The results of this study revealed that the attitude of female German consumers’ towards purchasing OPCP is positively affected by their environmental literacy, past experience with OPCP, environmental consciousness, health consciousness and their concern about animal well-being. Their purchase intentions of OPCP is also positively affected by their past experience with OPCP but negatively affected by their environmental literacy which can be ascribed to triggers of other factors that cause changes in the final direct effects of consumers’ environmental literacy. In addition their purchase intentions of OPCP are positively affected by their attitudes towards buying OPCP.

Thus, regarding the first sub-purpose of investigating the influence of consumers’ environmental literacy on their attitude and purchase intentions of OPCP, it can
concluded that environmental literacy plays an important role in consumers’ attitude formation towards buying OPCP and their purchase intentions of OPCP. However, while consumers’ environmental literacy positively affects their attitudes towards OPCP, it exhibits a negative effect on their purchase intentions of OPCP. As outlined above, this negative effect occurs, however, due to effects of other factors on environmental literacy that leads to changes in its final direct effects.

The second sub-purpose aimed at investigating the influence of consumers’ product related knowledge on their attitude towards purchasing OPCP and their purchase intentions of OPCP. As the results of this study show, only one dimension of product related knowledge effects consumers’ attitudes and purchase intentions. While consumers’ past experience with OPCP exhibits a strong positive effect on both consumers’ attitudes and purchase intentions of OPCP, their product expertise was found to not have an impact on either of the two. At this, it becomes apparent that whether consumers have owned, used or informed themselves about OPCP before, has a strong impact on how they feel about purchasing them as well whether they intend to purchase them.

The third sub-purpose was to investigate the influence of consumers’ values on their attitude towards and purchase intentions of OPCP. As the results of the study show, all considered values - environmental consciousness, health consciousness and animal well-being concern have a positive influence on consumers’ attitudes towards buying OPCP but not on their purchase intentions of OPCP. This reflects the mediating role of attitudes and supports the value-attitude-behaviour hierarchy introduced by Homer and Kahle (1988).

The fourth sub-purpose was to examine the influence of consumers’ social norms, attitudes, and perceived behavioural control on their purchase intentions of organic personal care products. The study’s results reveal that only consumers’ attitude towards buying OPCP acts as a predictor for their purchase intentions of OPCP. The two other constructs suggested by the theory of reasoned action (Fishbein, 1985) to affect purchase intentions - subjective norm and perceived behavioural control - were found to not exert an effect on purchase intentions in the context of organic personal care products.

In particular, the role of consumers’ past experience is worth emphasising as this construct has been found to affect both consumers’ attitudes towards and purchase intentions of OPCP. In addition this construct had the strongest effect on both attitudes and purchase intentions as compared to the other factors considered in this thesis.

7.2 THEORETICAL CONTRIBUTION

The results of this study make a theoretical contribution as they find that different types of consumer knowledge - their environmental literacy and their past experience with OPCP - have a strong effect on both their attitudes towards and purchase intentions of OPCP. Even though past research has looked at consumers’ environmental literacy on their environmental attitude (e.g. Campbell, et al., 2010; Arcury, 1990; Fraj-Andrésand and Martinez-Salinas, 2008), no previous study has considered how environmental literacy affects consumers attitudes and purchase intentions regarding organic products. Furthermore, no previous research has combined the factors environmental literacy,
product related knowledge and consumers’ values - as done in this study. Thus, this study contributes to existing theory by combining factors that have been found by different researcher to affect consumers’ attitudes and purchase intentions in the organic product context and by testing these factors in a newly developed conceptual model.

In addition, this study makes a theoretical contribution by investigating the little noted sector of organic personal cosmetics. Previous research on organic products has focused heavily on organic foods (e.g. Zanoli and Naspetti, 2002; Hughner et al., 2007; Padel and Foster, 2006; Davies et al., 1995). However, the second largest sector in the organic industry - organic personal care products - has received little attention from research. Therefore, this study has made a contribution to existing knowledge about the industry of organic products by showing that factors that were found to impact consumers’ attitudes and purchase intentions in the organic food context are also relevant for the context of organic personal care products. These factors include consumers’ environmental consciousness, health consciousness and animal well-being concern, as well as their attitudes towards purchasing organic products (Makatouni, 2002; Gotschi et al., 2007; Honkanen et al., 2006; Magnusson et al., 2003.

7.3 PRACTICAL IMPLICATIONS

Not only do the findings of this study make a theoretical contribution - they also yield some recommendations that can help practitioners improve their marketing strategies in the field of organic personal care products. As the results show, past experience exerts a strong impact on consumers’ attitudes towards purchasing OPCP as well as their actual purchase intentions of OPCP. In order to improve consumers’ attitudes towards and purchase intentions of OPCP, marketers should therefore consider making stronger use of free product trials as a marketing tool to increase consumers’ past experience with OPCP

In addition, marketing managers of OPCP should consider running campaigns that educate consumers’ about the environmental impact of personal care products and how using OPCP is beneficial for the environment. By doing so they will be able to increase consumers’ environmental literacy and thus their attitudes towards purchasing OPCP - as environmental literacy has been found to affect attitudes towards purchasing OPCP. In turn, increased attitudes towards purchasing OPCP will lead to greater purchase intentions of OPCP - as this study has revealed that consumers’ attitudes towards buying OPCP positively affect their purchase intentions of OPCP.

7.4 TRUTH CRITERIA

“Scientific methodology needs to be seen for what it truly is, a way of preventing me from deceiving myself in regard to my creativity formed subjective hunches which have developed out of the relationship between me and my material” (Rogers 1961; cited in Raimond, 1993, p.55). Therefore, several truth criteria that need to be considered to support a research and the quality of research have been mentioned by different authors being reliability, validity, generalization and replication (Saunders et al., 2009, p. 156; Bryman and Bell, 2007, p. 41) Thus, these truth criteria will be evaluated in the following to show that they are met by this study.
According to Bryman and Bell (2011, p.169), reliability indicates whether the findings of a study are repeatable. If a study is reliable, the data collection techniques and the way the data was analysed will yield consistent results (Saunders et al. 2009, p. 156). Reliability is of particular importance for quantitative research. This is due to the fact that researchers need to ensure that measures of constructs are stable, meaning that they do not fluctuate when measured on two or more occasions (Bryman and Bell, 2007, p. 41). In order to assess the reliability of the measures used in this study, Cronbach’s alpha coefficients have been computed for each construct as these indicate how well a set of items measure a concept (Andrew et al., 2011, p. 202). All except for one construct exhibited Cronbach’s Alpha coefficients greater than the threshold of 0.7 used to differentiate whether or not a construct is reliable (Saunders et al., 2009, p. 430; Andrew et al., 2011, p. 202). The construct of perceived behavioural control which exhibited a Cronbach’s Alpha coefficient lower than the threshold of 0.7 was then measured by only one item. Thus, it can be argued that this study and the measures applied are reliable.

The criterion of validity describes the extent to which conclusions derived at from a study are authentic or whether they hold water (Bjereld et al., 2009, p. 115; Saunders et al., 2009, p. 157). Validity comprises three dimensions being face validity, internal validity and external validity (Bryman and Bell, 2007, p. 41). Face validity or measurements validity assesses whether a concepts measure actually denotes this concept (Bryman and Bell, 2007, p. 41). Face validity was ensured in this study as only measures were used that have been tested and verified by previous research. Internal validity is concerned with whether a study’s conclusions about causal relationships of different variables are authentic (Bryman and Bell, 2007, p. 41). The internal validity of this study can be assessed by means of the regression analyses. These show that around 30% of variation in consumers’ attitudes towards purchasing OPCP can be explained by the variables considered and that more than 60% of the variation in consumers’ purchase intentions for OPCP can be explained by the factors included in the model. Thus, one can conclude that even though not all variance of the constructs attitude and purchase intentions could be explained by this study, the study is to a large extent internally valid. The third dimension of the validity criterion, the external validity, which is often also referred to as generalization (Graziano and Raulin, 2010, p. 163) and is frequently treated as a criterion in its own right, will be discussed in the following.

Quantitative research, in particular is concerned with the generalization of results. Generalization describes the extent to which inferences can be drawn from the findings of a study that can be applied to a larger group of people than the respondents of the sample (Bryman and Bell, 2007, p. 169). As discussed in the methodology, the nonprobability convenience sampling techniques has been used in this piece of research. However, it has hard to generalize findings from the convenience sampling to the whole population as the researcher(s) have selected the sample by themselves which makes it is prone to selection bias (Saunders et al., 2009, 241; Shiu et al., 2009, p. 480). For this study female German consumers were chosen. The respondents were of different age groups and educational backgrounds. However, these might only partially reflect the distribution of age groups and educational backgrounds in Germany. Thus, it can be argued that the findings of this study can only be partially generalized to the whole population. The descriptive statistics show that female respondents aged 18-24 made up approximately 52% of the respondents. Thus, one can argue that the findings of this
study are more generalizable to the group of female German consumers from this age group.

Replication constitutes another truth criterion which should be considered when a research is being evaluated. According to Bryman and Bell (2007, p. 41) a study is replicable when it is possible for other researchers to repeat the study. Different reasons exist for why a study needs to be replicated. For example, other researchers might want to re-evaluate the findings or test whether they hold true in another context (Bryman and Bell, 2004, p. 41). Therefore, all aspects of the research must be transparent such as the data gathering methods, sampling size and population etc. (Graziano & Raulin, 2010, p. 40). In order to allow for a replication of this study, the different methods and procedures applied in this study were clearly and comprehensively outlined in the methodology chapters. These include sampling techniques, statistical tools, research methodologies, questionnaire construction, population and how we accessed that population during our research. Thus, it can be argued that this study can be replicated by other researchers.

7.5 LIMITATIONS AND FUTURE RESEARCH

Due to restrictions in time and resources, this study was limited to German female consumers. This, however, poses a limitation of this study as it makes the generalization of findings across the borders of Germany difficult due to cultural differences. Future research should, therefore test the proposed conceptual model on consumers from different countries. Thus, a cross-cultural examination of the constructs included in the model and their effects on consumers’ attitudes towards purchasing OPCP and their purchase intentions of OPCP is recommendable.

In addition, this study was conducted on the very specific market of organic personal care products. This poses a limitation insofar as it makes the generalization of findings to the entire organic industry difficult. Further research should therefore test the effects of the different factors on consumers’ attitudes towards purchasing OPCP and their purchase intentions of OPCP in the context of other organic markets such as organic food or organic apparel. This would allow for a verification of the findings of this study for other organic markets or the organic industry in general.

Furthermore, the findings of this study show that consumers’ product expertise does not have a significant on their attitude towards buying OPCP and their purchase intentions of OPCP. However, as outlined in the discussion, these findings might result from product expertise being measured by consumers’ self-assessment. Self-assessed product expertise has, though, been found to be a more important determinant of product-related experience while an objective knowledge assessment is a better predictor of consumers’ product expertise (White et al., 1994) Therefore, the effect of consumers’ product expertise on consumers’ attitude towards buying OPCP and their purchase intentions of OPCP should be tested by using an objective measure in future research. This would help to examine whether the finding of this research that consumers’ products expertise has no significant effect on the above stated constructs is actually true or the result of a false measure.

Moreover, this study finds that consumers’ environmental literacy has a positive effect on their attitudes towards purchasing OPCP. On the contrary, the effect of consumers’
environmental literacy on their purchase intentions of OPCP has however been found to be negative when considered in a multiple regression model including the other constructs considered in this study. An additionally conducted simple regression analysis, however, showed that environmental literacy, in fact, has a positive effect on consumers’ purchase intentions of OPCP. Therefore, the negative effect of environmental literacy on consumers’ purchase intentions results from effects from other constructs considered in the multiple regression analysis that trigger changes in the direction of the final effects of environmental literacy. Future research should further examine these effects on environmental literacy to reveal any impacts of other constructs on consumers’ environmental literacy.


English Translation of the Survey

Dear respondent!

We are two students from Umeå School of Business and Economics at Umeå University currently writing our Master thesis. In our thesis we examine consumers' attitude and purchase intentions of organic personal care products and the results of this survey will serve as the basis for this investigation. Therefore, we would greatly appreciate if you would take a maximum of 10 minutes to complete this survey.

When referring to organic personal care products, this includes

- cosmetics (make-up, lip-stick, nail-polish etc.)
- deodorants
- fragrances
- haircare (shampoo, conditioner etc.)
- skincare (facial cream, body lotion etc.)
- soap and bath products (shower gel, soap etc.).

We would like to emphasise that the data and information collected in this survey are gathered and treated absolutely anonymously. The aim of this survey is not to assess or judge answers, but to simply capture connections. Therefore, we would like to ask you to respond honestly and state your true opinions regarding the questions asked.

The survey is open until Monday, 12th May 2014.

Thank you for your help in advance!

Alena Recker and Bilal Saleem

Original-Umfrage

Liebe/r Teilnehmer/in,


Als Naturkosmetikprodukte zählen in dieser Studie:

- Kosmetika (Make-up, Lippenstift, Nagellack etc.)
- Deodorants
- Parfüms
- Haarpflegeprodukte (Shampoo, Spülung etc.)
- Hautpflegeprodukte (Gesichtscreme, Bodylotion etc.)
- Seifen und Badeprodukte (Duschgel etc.)

Die Daten, die in dieser Umfrage gesammelt werden, sind absolut anonym. Es ist nicht Ziel dieser Umfrage Antworten zu bewerten oder zu beurteilen, sondern lediglich Zusammenhänge zu erfassen. Daher möchten wir Sie bitten, Ihre ehrliche Meinung und Einschätzungen zu den Fragen anzugeben.


Vielen Dank im Voraus für Ihre Hilfe!
BACKGROUND INFORMATION

1. Please indicate how old you are.
   - 15-24
   - 25-34
   - 35-44
   - 45-54
   - 55-64
   - 65-74
   - 75 or older

2. Please indicate your sex.
   - Female
   - Male

3. Please indicate your highest level of professional education.
   - No educational attainment
   - Apprenticeship
   - Fachschulabschluss
   - Fachhochschulabschluss/Hochschulabschluss
   - Promotion
   - Still in education
   - Other

ATTITUDES (5-point scales)

For me, buying organic personal care products would be…

4. A bad idea/A good idea
5. Useless/beneficial
6. Harmful/beneficial
7. Foolish/wise
8. Unpleasant/Pleasant
9. Undesirable/desirable

HINTERGRUNDBINFORMATIONEN

1. Bitte geben Sie an, wie alt Sie sind.
   - 15-24
   - 25-34
   - 35-44
   - 45-54
   - 55-64
   - 65-74
   - 75 oder älter

2. Bitte geben Sie Ihr Geschlecht an.
   - Weiblich
   - Männlich

   - Ohne beruflichen Bildungsabschluss
   - Lehre
   - Fachschulabschluss
   - Fachhochschulabschluss/Hochschulabschluss
   - Promotion
   - Noch in Ausbildung
   - Sonstiges

EINSTELLUNGEN (5-Punkte Skala)

Naturkosmetikprodukte zu kaufen wäre meiner Meinung nach…

4. Eine schlechte Idee/eine gute Idee
5. Sinnlos/nützlich
6. Schädlich/vorteilhaft
7. Dumm/vernünftig
8. Unangenehm/angenehm
9. Nicht
   wünschenswert/wünschenswert

SUBJECTIVE NORMS (5-point scales)

SUBJEKTIVE NORM (5-Punkte Skala)
10. Strongly disagree/strongly agree
- Most people who are important to me want me to buy organic personal care products.
- Most people who are important to me would approve if I bought organic personal care products.
- Most people who are important to me buy organic personal care products.

10. Trifft überhaupt nicht zu/trifft voll zu
- Die meisten Menschen, die mir wichtig sind möchten, dass ich Naturkosmetikprodukte kaufe.
- Die meisten Menschen, die mir wichtig sind würden es gut finden, wenn ich Naturkosmetikprodukte kaufe.
- Die meisten Menschen, die mir wichtig sind kaufen Naturkosmetikprodukte.

PERCEIVED BEHAVIOURAL CONTROL

11. Strongly disagree/strongly agree
- Whether or not I buy organic personal care products is completely up to me.
- I am confident that if I want, I can buy organic personal care products.
- I have the resources and ability to buy organic personal care products.

11. Trifft überhaupt nicht zu/trifft voll zu
- Ob ich Naturkosmetikprodukte kaufe oder nicht, hängt allein von mir ab.
- Ich bin überzeugt, dass ich Naturkosmetikprodukte kaufen könnte, wenn ich wollte
- Ich habe die (finanziellen) Mittel und Fähigkeiten, um Naturkosmetikprodukte zu kaufen.

PURCHASE INTENTIONS

12. Not at all/definitely
- I intend to purchase organic personal care products within the next four weeks.
- I want to purchase organic personal care products within the next four weeks.

12. Trifft überhaupt nicht zu/trifft voll zu
- Ich habe vor, in den nächsten vier Wochen Naturkosmetikprodukte zu kaufen.
- Ich möchte in den nächsten vier Wochen Naturkosmetikprodukte kaufen

13. Not at all likely/very likely
- How likely is it that you will purchase organic personal care products within the next four weeks?

13. Trifft überhaupt nicht zu/trifft voll zu
- Wie wahrscheinlich ist es, dass Sie in den nächsten vier Wochen Naturkosmetikprodukte kaufen?
weeks.

KNOWLEDGE

14. Not at all knowledgeable/highly knowledgeable
- I am knowledgeable about how my consumption affects the environment.
- I am knowledgeable about how purchasing organic products protects the environment.
- I am knowledgeable about how I can protect the environment.

15. Not at all/a lot
- How much do you search for information on organic personal care products?
- How much do you use organic personal care products?
- How much organic personal care products do you own?

16. Strongly disagree/strongly agree
- I am familiar with organic personal care products.
- I have a clear idea about which characteristics are important in providing me with maximum usage satisfaction.
- My knowledge about organic personal care products is better relative to the rest of the population.
- I know a lot about organic personal care products.

WISSEN

14. Gar keine Kenntnisse/sehr viele Kenntnisse
- Ich habe viele Kenntnisse darüber, wie mein Konsumverhalten die Umwelt beeinflusst.
- Ich habe viele Kenntnisse darüber, wie das Kaufen von Naturprodukten gut für die Umwelt ist.
- Ich habe viele Kenntnisse darüber, wie ich die Umwelt schützen kann.

15. Überhaupt nicht/sehr viel
- Zu welchem Ausmaß informieren Sie sich über Naturkosmetikprodukte?
- Zu welchem Ausmaß verwenden Sie Naturkosmetikprodukte?
- Zu welchem Ausmaß besitzen Sie Naturkosmetikprodukte?

16. Trifft überhaupt nicht zu/trifft voll zu
- Ich bin mit Naturkosmetikprodukten vertraut.
- Ich habe eine genaue Vorstellung davon, welche Eigenschaften von Naturkosmetikprodukten wichtig sind, damit ich bei ihrer Verwendung zufrieden bin.
- Mein Wissen über Naturkosmetikprodukte ist besser verglichen mit dem Rest der Bevölkerung.
- Ich weiß viel über
<table>
<thead>
<tr>
<th>VALUES</th>
<th>WERTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>17. Strongly disagree/strongly agree</td>
<td>17. Stimme gar nicht zu/stimme voll zu</td>
</tr>
<tr>
<td>- We are approaching the limit of the number of people the earth can support.</td>
<td>- Wir nähern uns der Anzahl von Menschen, die die Erde verkraften kann.</td>
</tr>
<tr>
<td>- Humans have the right to modify the natural environment to suit their needs.</td>
<td>- Menschen haben das Recht, die Umwelt so zu verändern, dass sie ihren Bedürfnissen dient.</td>
</tr>
<tr>
<td>- When humans interfere with nature it often produces disastrous consequences.</td>
<td>- Wenn Menschen in die Natur eingreifen, hat dies häufig verhängnisvolle Konsequenzen.</td>
</tr>
<tr>
<td>- Human ingenuity will insure that we do NOT make the earth unlivable.</td>
<td>- Der menschliche Einfallsreichtum wird sicherstellen, dass wir die Erde NICHT unbewohnbar machen.</td>
</tr>
<tr>
<td>- Humans are severely abusing the environment.</td>
<td>- Die Erde hat genug Ressourcen, wenn wir nur lernen sie zu erschließen.</td>
</tr>
<tr>
<td>- The earth has plenty of natural resources if we just learn how to develop them.</td>
<td>- Pflanzen und Tiere haben das gleiche Recht zu leben wie Menschen.</td>
</tr>
<tr>
<td>- Plant and animals have as much rights as humans to exist.</td>
<td>- Das natürliche Gleichgewicht ist stark genug, um mit den Auswirkungen der modernen Industrienationen fertig zu werden.</td>
</tr>
<tr>
<td>- The balance of nature is strong enough to cope with the impacts of modern industrial nations.</td>
<td>- Trotz unserer besonderen Fähigkeiten sind Menschen den Gesetzen der Natur unterworfen.</td>
</tr>
<tr>
<td>- Despite our special abilities humans are still subject to the laws of nature.</td>
<td>- Die sogenannte „Umweltkrise“, die der Menschheit droht, ist übertrieben.</td>
</tr>
<tr>
<td>- The so-called “ecological crisis” facing humankind has been greatly exaggerated.</td>
<td>- Die Erde ist wie ein Raumschiff mit begrenztem Platz und Ressourcen.</td>
</tr>
<tr>
<td>- The earth is like a spaceship with very limited room and resources.</td>
<td>- Menschen sind dazu bestimmt, über den Rest der Natur zu herrschen.</td>
</tr>
<tr>
<td>- Humans were meant to rule over the rest of nature.</td>
<td>- Das natürliche Gleichgewicht ist sehr empfindlich und kann leicht durcheinandergebracht werden.</td>
</tr>
<tr>
<td>- The balance of nature is very delicate and easily upset.</td>
<td>- Eines Tages werden Menschen</td>
</tr>
<tr>
<td>- Humans will eventually learn enough about how nature works to be able to control it.</td>
<td></td>
</tr>
<tr>
<td>- If things continue on their present course, we will soon experience a major ecological catastrophe.</td>
<td></td>
</tr>
</tbody>
</table>
### 18. Strongly disagree/strongly agree
- I reflect about my health a lot.
- I am very self-conscious about my health.
- I am generally attentive to my inner feelings about my health.
- I am constantly examining my health.
- I am usually aware of my health.
- I am aware of the state of my health as I go through the day.
- I notice how I feel physically as I go through the day.
- I am very involved with my health.

### 18. Trifft überhaupt nicht zu/trifft voll zu
- Ich denke viel über meine Gesundheit nach.
- Ich bin mir meiner Gesundheit bewusst.
- Ich achte im Allgemeinen auf mein Bauchgefühl bezüglich meiner Gesundheit.
- Ich überprüfe dauernd meine Gesundheit.
- Ich bin mir im Allgemeinen über meine Gesundheit bewusst.
- Ich bin mir während des gesamten Tages über meinen Gesundheitszustand bewusst.
- Ich merke während des gesamten Tages wie ich mich körperlich fühle.
- Ich beschäftige mich viel mit meiner Gesundheit.

### 19. Strongly disagree/strongly agree
- In general, humans have too little respect for the quality of life of animals.
- Increased regulation of the treatment of animals in farming is needed.
- Testing consumer products such as soaps, cosmetics and household cleaners on animal raises serious ethical questions about the treatment of animals.

### 19. Stimme überhaupt nicht zu/stimme voll zu
- Menschen haben im Allgemeinen zu wenig Respekt für die Lebensqualität von Tieren.
- Wir brauchen mehr Vorschriften wie Tiere in der Landwirtschaft behandelt werden sollten.
- Das Testen von Produkten wie Seifen, Kosmetika oder Reinigungsmitteln wirft ernste ethische Frage auf, wie Tiere behandelt werden.
### Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
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<td>.339</td>
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a. Predictors: (Constant), Animal_Welfare_Concern, Environmental_Literacy, Health_Consciousness, Environmental_Consciousness, Product_Experience, Product_Expertise

### ANOVA\(^b\)

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
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<th>Mean Square</th>
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<tr>
<td>Total</td>
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a. Dependent Variable: Attitude

b. Predictors: (Constant), Animal_Welfare_Concern, Environmental_Literacy, Health_Consciousness, Environmental_Consciousness, Product_Experience, Product_Expertise

### COEFFICIENTS

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
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<tbody>
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a. Dependent Variable: Attitude
### Model Summary

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<tr>
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<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
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*a. Predictors: (Constant), Perceived Behavioural Control 3, Animal_Welfare_Concern, Subjective_Norm, Health_Consciousness, Environmental_Literacy, Environmental_Consciousness, Attitude, Product_Experience, Product_Expertise*

### ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
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</tbody>
</table>

*a. Dependent Variable: Purchase_Intentions*

*b. Predictors: (Constant), Perceived Behavioural Control 3, Animal_Welfare_Concern, Subjective_Norm, Health_Consciousness, Environmental_Literacy, Environmental_Consciousness, Attitude, Product_Experience, Product_Expertise*

### Coefficients

<table>
<thead>
<tr>
<th>Model</th>
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<td>Std. Error</td>
<td>Beta</td>
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<td>Product_Experience</td>
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<td>.112</td>
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<td></td>
<td>Environmental_Consciousness</td>
<td>.129</td>
<td>.123</td>
<td>.049</td>
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<tr>
<td></td>
<td>Health_Consciousness</td>
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</table>

*a. Dependent Variable: Purchase_Intentions*
### Model Summary

<table>
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<tr>
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<tr>
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<td>.109</td>
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a. Predictors: (Constant), Environmental_Literacy

### ANOVA

<table>
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<tr>
<th>Model</th>
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<tr>
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<td>1,653</td>
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<tr>
<td>Total</td>
<td>380,551</td>
<td>206</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Purchase_Intentions
b. Predictors: (Constant), Environmental_Literacy

### Coefficients

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td></td>
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</tr>
<tr>
<td>1</td>
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a. Dependent Variable: Purchase_Intentions