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Is Green the New Black?

Identifying factors that influence green purchase behaviour in a cross-country comparison study

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ABSTRACT:
Promoting green consumer behaviour among societies can decrease the negative traits humans leave on this earth. Through green consumer behaviour, policy-makers can minimize the negative impact of consumption on the environment. The research related to green consumption behaviour in European countries including younger generations is rare. Therefore, the researcher conducted this study to identify factors that influence green purchase behaviour in a cross-comparison study. It will enhance the understanding of green purchase decisions. This study explores personal factors through the theory of planned behaviour and cultural factors with an adaption of the six Hofstede dimensions. The research is quantitative and follows a deductive approach. Moreover, the purpose of this research is of exploratory and descriptive nature. First a theoretical framework was developed by an in-depth analysis of recent literature. Data collection was executed through a web-based survey in Germany and Finland. The survey was spread in different Facebook groups, on the campus and around WhatsApp groups. Analyzed was the data through SPSS and AMOS 26.0 software. A sample of 176 useable respondents answered 43 questions, through the statistical instrument structural equation modeling (SEM) the strength between constructs was measured. The findings of this study suggest that the constructs of the theory of planned behaviour are partly applicable. Two constructs exerted a high influence on the green purchase intention, namely attitude about green products and knowledge of green products. Confirming that if a consumer has more knowledge or a positive attitude about green products the intention to buy green products is higher, which in turn impacts the green consumer behaviour positively. Adding to this, a positive green purchase intention has a positive impact on green consumer behaviour, targeting this intention through the before mentioned constructs can be an effective way of increasing green consumption. Moreover, the findings showed that all cultural dimensions did not have a significant influence on the green purchase intention. However, interesting new outlooks can be determined when comparing the tendencies resulting from this questionnaire and the original Hofstede questionnaire. It adds to the existing literature in researching the younger generation Y and Z which will be the next generation of possible green consumers. Furthermore, it enhances the understanding of cross-cultural consumer behaviour research. This study used theory of planned behaviour (TPB) and further attempted to include important constructs such as knowledge and Hofstede's cultural dimensions in the TPB model for understanding consumer behaviour towards green products.

KEYWORDS: consumer behaviour, sustainable consumption, purchase decisions, green products, culture, environmental attitudes

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Abbreviations

ATT – Attitude

AVE – Average Variance Extracted

CFA – Confirmatory Factor Analysis

CFI – Comparative Fit Index

COL – Collectivism

CR – Critical Ratio

EFA – Exploratory Factor Analysis

GPB – Green Purchase Behaviour

GPI – Green Purchase Intention

KN – Knowledge

LTO – Long-term Orientation

MF – Masculinity

PBC – Perceived Behavioural Control

PD – Power distance

RMSEA – Root Mean Square Error of Approximation

S.E. – Standard Error

SEM – Structural Equation Modeling

SN – Subjective Norms

TLI – Tucker-Lewis Index

TPB - Theory of Planned Behaviour

UA – Uncertainty Avoidance

1 INTRODUCTION

Social and environmental concerns are rising due to the increase of awareness towards the possible consequences of climate change. European politics already acknowledged the urgency of this topic and recent demonstrations increased the pressure. It shows that potential consumers are more aware of their environment and its problems. This may lead to a rise in environmentally friendly products in Europe (Shaw et al., 2006).

1.1 Background of study

Moving from a high carbon economy towards a low carbon economy requires changes and possible levers for employment such as education, regulation, financial systems, and innovation. This is a challenge and a concerning topic for policymakers and businesses (Wells et al., 2011). In the Paris Agreement, several countries signed to keep the increase of the global average temperature under 2 °C. This United Nations Framework Convention on Climate Change sends an important signal from the policymakers in 2016 (United Nations Framework Convention on Climate Change [UNFCC], 2016). However, many countries failed to meet the goals of this agreement. As climate change is highly impacted by the consumption patterns of industrialized countries, a healthier way of consuming goods or services must be found. The consumption of sustainable products could be the solution to minimize the negative global influence of the human species on the planet (Tanner & Wölfing Kast, 2003).

Thus, fostering change in consumption and finding ways to enhance purchases of green products is essential for saving the planet. As data shows, the majority of 53 per cent stated that their motivation to protect the environment was very high. This data was compiled in the European Union in 2014 (European Commission, 2014). Targeting this percentage could create an advantage for sustainable companies. In this research, the focus groups of generation Y and Z are targeted. One reason is that studies about these

generations and green consumer behaviour are rare. Another reason is that these consumers increasingly demand products embracing purpose and sustainability (White et al., 2019). Humans born from approximately 1995-2010 are considered as Generation Z or millennials. Humans born between 1980 and 1994 are categorized in the generation Y. As a change can be perceived between the generation's views, believes, attitudes towards certain topics it is interesting in this study, to highlight the background of this sample and the influence on green consumer behaviour. Already in generation Y consumption is increasingly attached to ethics. Due to the heavy usage of social media and the demand for full transparency of organisations and companies, younger consumer demands a match between the companies' actions and ideals. This often concerns not only the single company or brand but includes the whole stakeholder system, all of them should align with the ideal. Another point is that the generation Z consumer is mostly educated about the companies and the normal business life. A generation Z consumer has the knowledge to quickly access all the necessary information about a company and to share their views about it because he or she is a digital native (Francis & Hoefel, 2018). In table 1 the differences between Generation Y and Z are shown.

Table 1. Comparison of Generation Y and Z (Francis & Hoefel, 2018)

	Generation Y (Millennial) 1980 - 1994	**Generation Z 1995 - 2010**
Context	• Globalization • Economic stability • Emergence of world wide web	• Mobility and multiple realities • Social networks • Digital natives
Behaviour	• Globalist • Questioning • Oriented to self	• Undefined ID • Realistic
Consumption	• Experience • Festivals and travel • Flagships	• Uniqueness • Unlimited • Ethical

Furthermore, it could enable governments to establish convincing and implementable agreements. This is especially important for the European Union, as all countries within decided to enhance sustainable consumption (Liobikienė et al., 2016).

Conducting a cross-country comparison enables the researcher to gain a deeper understanding of the most critical topics concerning the different countries. Therefore, research was mainly conducted in developing countries such as China (Chan, 2001), Taiwan (Wei et al., 2017) and India (Yadav & Pathak, 2017). In the developed countries the main body of literature exerts data from the US (Kim & Han, 2010). In Europe, an extensive study was conducted by Liobikienė et al. in 2016, hence an update of the current green consumption in the selected countries is beneficial. The importance of a cross country comparison lies also in the formulation of unexplored directions and useful avenues for future research, without this type of study a researcher might have missed the new aspects found during the comparison. Additionally, gaps in knowledge can be easily identified and the focus of analysis of the subject under investigation is sharpened (Hantrais & Mangen, 1996). These arguments support the decision to conduct a cross country study as there is a lack of updated studies from countries in the European Union.

To touch upon the underlying topic of this thesis, it is interesting to research the drivers of green purchase intentions to understand green consumer behaviour. In general, it is of supreme importance for producers, marketers and policymakers to enhance the ways of promoting consumer habits that are less harmful to the environment. As already described the awareness about ecological consequences from overconsumption rises, in turn also companies see the need to implement more sustainability in all business fields (Cho et al., 2013; Vermeir & Verbeke, 2008; Welsch & Kühling, 2009). The overall goal of a company is to establish a strong and reliable brand. That could be increased by offering green products, with an engaged community (Olsen et al., 2014). However, many companies fail to understand the importance of consumer behaviour, therefore they rather spend their budgets for cost-intensive marketing campaigns which are not targeted and do not appeal to the consumer.

It is further argued that companies do not realize that consumers have different barriers to overcome, before the consumption of green products. Moreover, the behaviour of a consumer may be different than their attitude or intention. Different articles found a gap, showing that the attitude does not always convert into actual green purchase behaviour (Carrington et al., 2010; Pickett-Baker & Ozaki, 2008). First, it is argued that consumers' willingness to pay a premium price for green products may hinder the purchase (Laroche et al., 2001). Also, availability, and the lack of trust, caused by greenwash scandals or misuse of green labels significantly changes the purchase intention of a consumer (Parguel, et al., 2011; Olsen et al., 2014). As a result, green marketing initiatives could be more cost-effective and inefficient. Consequently, promoting and producing green products may be not appealing to companies.

Considering these developments, the significance of understanding the drivers of green purchase intentions becomes more important. Exploring different personal and cultural factors could bridge the gap and provide further explanations. Moreover, green marketing strategies could be adapted towards the green consumer and be more efficient. While examining cultural factors especially policymakers could benefit from the findings. Establishing national policies may increase the feasibility and satisfy the green consumer.

1.2 Research gap

The topic of green consumer behaviour and green marketing has been studied to a certain degree (Liobikienė et al., 2016; Thøgersen et al., 2012; Wei, et al., 2017; Soyez, 2012). Former research has investigated the challenges and opportunities of green marketing and green consumption throughout its existence (Olsen et al., 2014). The main advantages are mentioned previously, namely additional profits from green products, an option for brands to expand its product portfolio, and minimizing costs (Olsen et al., 2014; Gordon et al., 2011; Kotler, 2011). On the other side, the main barriers for green consumption are the sinking trust in labels, scepticism towards green ads and greenwashing scandals (Chen & Chang, 2012; Carrington et al., 2010; Matthes & Wonneberger, 2014).

Nowadays a vast number of companies are turning their attention towards environmental sustainability and use green marketing, to increase the consumption of green products (Chen, 2010). However, environmental claims pointing to green attributes, are used without the proof of being green. The shrinking confidence of these claims is leading towards a consumer unable to make the most satisfying purchase decision. (Chen & Chang, 2012).

The existing research explores different aspects of the topic. Firstly, certain studies address the topic of green consumer behaviour in different contexts such as the behaviour intention action-gap (Johnstone & Tan, 2015) describing the gap between a purchase intention and the actual purchase behaviour, the influence of green trust (Chen & Chang, 2012) or green buying intentions (Lu et al., 2015). All these aspects provide a solid base for an in-depth literature review. In addition, there are studies examining the impact of the theory of planned behaviour (Liobikienė et al. 2016) and cultural factors (Kim & Han, 2010). This also contributes to the topic. However, most of the studies are outdated and do not examine the cultural influence on purchase intentions (Joshi & Rahman, 2015).

The characteristics of a green young consumer of generation Y and Z in the European Union have not been dealt with in-depth. In general, there is a lack of studies about green purchase intentions and its determinants in the European Union, where the consumption level is rather high (Liobikienė et al., 2016). Therefore, a cross-country comparison study will enhance the understanding of green purchase behaviour and its determinants. Motives to conduct this type of study are that it leads to a detailed understanding of the green consumer behaviour in the selected country. Further, it enhances new directions and effective avenues for future studies about the issues which were overlooked before. Adding to this point cross-country comparison research supports to identify gaps in recent knowledge and helps to sharpen the focus of analysis on the subject by developing new perspectives (Hantrais & Mangen, 1996).

The influence of the cultural dimensions by Hofstede (1980, 2001) will provide new insights as well. This will be done by creating a theoretical framework combining both personal factors and cultural factors influencing the green purchase intention. In the end, the impact of the green purchase intention on the purchase behaviour could be measured. Studying the generation Y with the focus on their concerns, attitudes, behaviours, and impact of culture is crucial. Most of the studies are conducted between 2000 and 2010. As it becomes an increasingly interesting important topic, new findings are overdue.

1.3 The importance of the topic

The importance of this topic can be seen in the rapid growth of consumption. From the marketing perspective, advertising of sustainable products could be one of the strategies to reduce the human footprint on the earth and realize the goals of sustainable consumption. Moreover, marketing can raise awareness towards environmental challenges, while suggesting behaviours that may help to amend these issues (Fowler & Close, 2012). However, companies fail to build a reliable green brand to gain a competitive advantage for their green products. One of the major barriers are the low trust in green brands. However, an increasing number of companies started to advertise sustainable products. That also means that competition is increasing. The main strategic tool to advance a competitive advantage is to create a strong, recognizable brand. Companies with such a brand can create a network with their customers and establish a value for them. Understanding the green consumer could enrich the brand equity (Olsen et al., 2014).

From the consumer perspective, an underlying chance of making a positive impact lies in the choice of products. Consumers have the ability of contributing to a more sustainable consumption by choosing green products. Identifying the drivers that positively influence the green purchase intention is of fundamental importance (Wei et al., 2017). Different determinants are affecting the purchase intention, with the theory of planned behaviour attitudes, subjective norms and behavioural control can be explored (Ajzen,

1991). Examining the factors impacting green purchase behaviour may also help to eliminate the obstacles in green consumption (Welsch & Kühling, 2009). As these obstacles can be efficiently targeted and maybe resolved. Another aspect of influencing purchase intention is the cultural dimension. Culture can elucidate the motivation for buying certain products or customers dependency on brands (Hofstede, 2001). Therefore, companies need to realize the differences in customer motives while making a purchase intention (Gupta et al., 2018).

1.4 Purpose, research question and objectives

As the interest in green products rises, the core customer group is still unknown, which is one of the reasons for the failure of many companies. Most of them are unsuccessful in establishing a solid presence in their target markets. This is due to the declining trust in labels and different greenwashing scandals (Carrington et al., 2010; Matthes & Wonneberger, 2014). As a consequence, the uncertainty and scepticism towards green advertisement claims are increasing (Chen & Chang, 2012).

It becomes evident that green marketing approaches may not always yield the required outcomes for companies offering green products; therefore, a better understanding of the determinants of green consumer behaviour could be a solution for rebuilding the trust in their products and increase the brand awareness. By adopting this knowledge firms could differentiate themselves from their competitors and build a strong consumer community which is willing to associate themselves with the brand and, thus, become loyal.

The main purpose of this research is to introduce a theoretical framework based on the theory of planned behaviour and cultural dimensions, to investigate the drivers of green consumption behaviour. To do so, it will be essential to evaluate the existing studies about the drivers of green purchase intentions and extending the theory to create an

actual picture of the main motives of green consumers in selected countries in the European Union. Comparing these motives and explaining certain behaviour's based on their culture will give new insights for marketers and policymakers.

From the points mentioned before, personal factors (Joshi & Rahman, 2015) and cultural factors (Liobikienė et al., 2016) must be examined thoroughly. Gaining a deep understanding of this special consumer group and the determinants driving this green behaviour is critical to the research. To understand the cultural influence on their purchase intentions will be another integral part. Reflecting on their attitudes, the influence of substantial norms and perceived behavioural control is important to understand the underlying motives for their purchase intention towards green products. This results in the following research question:

"How can personal factors and cultural factors influence green purchase decisions, taking also into consideration the mindset of young customers?"

To have a solid structure and a consistent clarity research objectives must be specified. These objectives will assist to provide a direction to investigate the correct steps taken to answer the research question. Additionally, the objectives will deliver lucidity for the reader to understand the underlying motive of the paper.

Objective: *To study the drivers of green consumption and how it shapes the green purchase intention and buying behaviour in a cross-country context.*

This paper has two main interests that can be stated as sub-objectives:

1. *To examine how personal factors, affect the green purchase behaviour in a cross-country comparison study.*
2. *To determine the relationship between the cultural dimensions on the green purchase behaviour with a multiple country sample from Europe.*

1.5 Delimitations

To provide an answer to the primary research question, the research paper will determine and test the theoretical framework from the perspective of the consumer and selected influence factors on the purchase intention of green products. It could provide policymakers and marketers with new insights to change consumer behaviour. Moreover, companies must recognize and examine the factors that affect consumers' purchase behaviour concerning green products to create efficient and valuable advertising and communication strategies.

Hence, the theoretical framework will consist of personal factors derived from the theory of planned behaviour. Besides, cultural dimensions and the impact on purchase intentions will be tested. This is necessary to detect the determinants and motives driving a purchase intention, with the special delimitation of green products. The findings will be used to provide guidelines for marketers, to enhance and target green marketing strategies.

All in all, not all European countries, actual green buying behaviour, and types of products or services offered will not be considered in this research paper, although these factors may have an impact on the results of the study. Furthermore, the data will be gathered through an online questionnaire. It will be shared in different countries namely Finland, Germany, France and Greece. However, only France and Germany are included in this study as the number of responses from the other countries were not valid. This alludes that the research paper will be partly exploratory, therefore generalizability will be limited.

1.6 Structure of the Study

The first chapter of the research paper starts with an introduction, it will provide the reader with a clear idea about the central issue of concern. In addition, the need for

studying this subject will be explained. The delimitations are included as well, to further clarify the scope of the thesis.

In the second chapter, a literature review with basic and recently written studies will be conducted, to set the study in a wider context. As previously described, the four theoretical parts of green consumer behaviour, personal factors, cultural factors and green purchase intention will be discussed to enhance the knowledge about these topics. Once these topics have been described, the concepts will be combined to develop a theoretical framework and the inferring hypotheses.

In the third chapter, detailed information to estimate the reliability and validity of the methods will be provided. Points that are included in the methodology chapter are the research setting, information about the participants, materials, and procedures.

In the fourth chapter, empirical research and results will form the most important part of the research paper. The facts covered by the research will be reported, starting with the empirical examination. It will be followed by the description, analysis, and evaluation.

In the last part of the master thesis an overall conclusion of the findings, managerial implications and limitations will be offered. Finally, suggestions for future research within the field of green consumer behaviour and green purchase intentions will complete the research paper.

2 LITERATURE REVIEW

This chapter provides a theoretical view of different factors that influence green purchase behaviour. As conceptualized previously, the literature review will be categorized into four parts. First, an overview of former studies of green consumer behaviour will be provided. The second part will focus on personal factors derived from the theory of planned behaviour. Third, a discussion about the cultural factors and their influence on the purchase intention will follow. The fourth part and last part will measure the influence of the green purchase intention on consumer behaviour. These distinct determinants will be further discussed in the following chapter, to enhance the understanding and conciseness on what will be focussed in this research.

2.1 Green consumer behaviour

As the research paper is mainly focused on the drivers for green purchase intentions, one aspect is how the intention could result in a certain behaviour of the consumer. Consequently, green consumer behaviour has to be discussed in-depth. To this form of consumer behaviour, a vast number of studies extend the concept as sustainable consumer behaviour (Leary et al., 2014), green consumption (Joshi & Rahman, 2015) or ethical consumer behaviour (Carrington et al., 2014). In this study, the term green consumer behaviour will be used to describe the overall approach. In general, this form of consumption could be determined as a variety of activities, focused on saving and sustaining the environment (Perera et al., 2018). It could be also defined as freely and by choice engaging in nature-friendly consumer practices. An example is a consumer deciding to buy second-hand clothing, rather than newly produced fashion, while others may choose an organic fruit where the farmer does not use pesticides (Kilbourne & Pickett, 2008).

Nowadays, consumers see firms not only as resources for profit but also as entities sensible to social and environmental problems (Ambec & Lanoie, 2008). Consequently, companies started to focus on sustainability as a business target and implemented green

marketing strategies to promote sustainable products (González-Benito et al., 2014; Narver & Slater, 1990). Green or sustainable products are produced with the lowest or non-environmental harm. Hence, companies try to apply sustainable resources and reduce the use of waste, toxic components and pollution (Chang, 2011). In this thesis, the term green products are understood as environmentally friendly goods produced with low to no harm to nature and the resources used. They are domestically cultivated and not imported from foreign countries. In addition, less packaging compared to a conventional product is utilized. Seasonal and fresh products are also seen as green products. Further, the producers support fair-trade (Tanner & Wölfing Kast, 2003). As green consumer behaviour is deeply connected to green marketing, it is also a subject of matter in this thesis. Marketing can influence consumer behaviour (Chen & Chang, 2012).

Green consumer behaviour can translate into additional profits for companies. On one hand, it is a commercial chance to expand the product portfolio by offering new innovative green products. On the other hand, companies can change their brand awareness, create customer loyalty and enrich brand equity (Olsen et al., 2014; Gordon et al., 2011). The implementation of green strategies could include green packaging, recycling or minimizing waste. It gives the companies a competitive advantage because it can increase their efficiency and differentiate themselves from the offerings of the competitors and satisfy green consumer needs (Chang, 2011; Kotler, 2011). In addition, several studies proved that the green purchase intention had a positive impact on consumer behaviour, see Table 2.

Table 2. Purchase intention has a positive impact on consumer behaviour (Chan, 2001)

Author	Title	Theory	Methodology	Finding
Chan, (2001)	Determinants of Chinese consumers' green purchase behaviour.	A conceptual model consisting of the value–attitude-behaviour hierarchy. Besides, direct connections between man–nature orientation, collectivism and attitudes toward green purchases were established.	Cross-Group Comparison and Confirmatory Factor Analysis	Attitudes towards green products affect green consumer behaviour through the mediator of green purchase intention.
Wei, Chiang, Kou, & Lee, (2017)	Toward Sustainable Livelihoods: Investigating the Drivers of Purchase Behavior for Green Products	Cognitive behaviour theory	Structural equation modeling	Purchase intention has a strong positive influence on green buying behaviour.

However, translating green consumer behaviour into profitable structures is challenging for companies and policymakers. The main influence factors are the sinking trust in labels, scepticism towards green ads and greenwashing scandals (Chen & Chang, 2012; Carrington et al., 2010; Matthes & Wonneberger, 2014). As consumers send strong green signals with their purchase behaviours, companies are fostered to change their marketing strategies. Often misleading advertisements regarding the environmental status of a service, product or company are used to compete in the market. This form of marketing is called greenwashing and it is heavily impacting the confidence in green advertisement claims (Parguel et al., 2011).

Existing research shows that green consumer behaviour is complex. Several factors and drivers of this behaviour are impacted to different degrees by a large variety of determinants. In the following, the determinants will be further explored: personal factors and cultural factors. Afterwards, the purchase intention as a factor influencing green consumer behaviour and buying behaviour will be determined.

2.2 Personal factors – theory of planned behaviour

To answer the research question, examining the personal drivers for green purchase intentions is essential. The theory of planned behaviour may be the most applicable theory of examining determinants for green product purchases since its theory predicts how humans will act based on their intentions and other influence factors. A vast number of studies tested the relationship between the articulated positive attitude towards purchasing green products (Tanner & Wölfing Kast, 2003; Liobikienė et al., 2016).

2.2.1 Theory of planned behaviour

In the year 1985 Ajzen established the theory of planned behaviour (TPB). It was widely discussed because it states that an individual's behaviour is directed by three determinants: behavioural beliefs, control beliefs and normative beliefs. These beliefs affect that certain outcomes are emerging such as attitude towards behaviour, subjective norm, and perceived behavioural control. These variables lead then to the development of behavioural intention. However, the main dependent variable is consumer intention describing the readiness of an individual to behave in a particular way. (Ajzen, 1991). The variable intention is often used by researchers to predict behaviour, subjective norm and attitude towards behaviour are often fully mediated (Liobikienė et al., 2016). An overall scheme of the theory of planned behaviour is depicted in Figure 1.

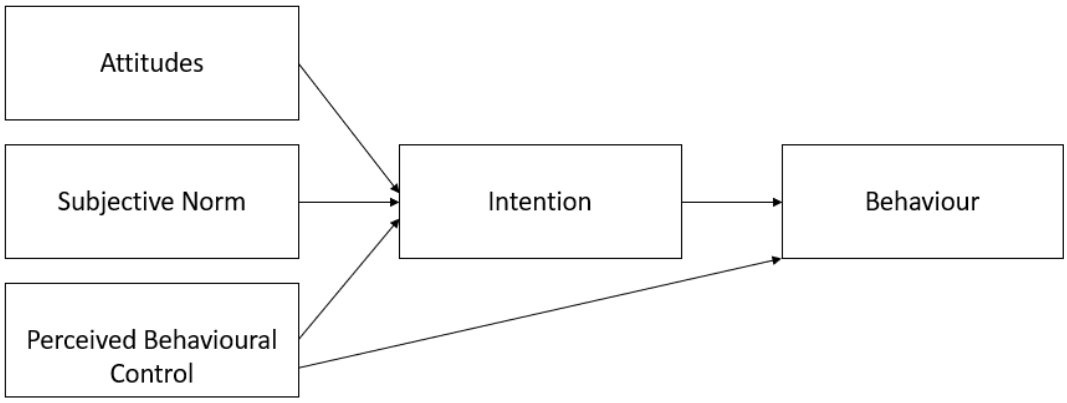

Figure 1. Scheme of Theory of Planned Behaviour (Ajzen, 1980;1991)

Furthermore, meta-analytic studies supported that behaviour can be predicted by intentions. Armitage and Conner (2001) examined 185 independent tests of TPB across various domains and find a mean explained variance of 27%. In the meantime, other studies stated that predictive power is rather low and that intentions often not translate into real behaviour (De Cannière et al., 2009). Different studies revealed an action gap resulting from the low trust in green products and the lower willingness to pay a premium (Chen & Chang, 2012; Carrington et al., 2014).

The theory of planned behaviour has been proved, to enable researchers to establish a credible framework for conceptualising and identifying determinants that drive intentions and behaviour (Montano et al. 1997). Although the theory of planned behaviour and the examination of behaviour through intentions is criticized in different studies (Joshi & Rahman, 2015; Greenwald & Banaji, 1995; Vermeir & Verbeke, 2008), the applicability is still given. On the condition that an extension of this theory happens. According to Liobikienė et al. (2016), an extension should include situational and contextual factors. The researchers examined the economic development of the selected countries, by determining the relationship of the GDP per capita towards green purchase behaviour and its drivers. In this thesis, the income level and the influence on the green purchase behaviour will be measured. On the other hand, contextual factors concerning green purchase behaviour like culture, age and gender will be examined. Culture and its

cultural dimensions influence individuals everyday life (Hofstede, 2001). Thus in this research paper, an evaluation of the influence of different factors of TPB may contribute to the purchase of green products will be conducted.

2.2.2 Influence of attitude towards the behaviour

The theory of planned behaviour factors can be divided into the attitude towards behaviour, subjective norms and behavioural control. The first factor is the attitude, it exposes the degree to which an individual has a convenient evaluation of a certain behaviour (Liobikienė et al., 2016). Further, attitudes were defined as “a psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour” (Eagly & Chaiken, 1993).

In the decision-making process, the favourable attitude can derive from the opinion an individual has about how their choice impacts the world. Researchers found out that a positive attitude towards green products influences the green buying behaviour. This means that the more humans think that their behaviour can make a difference in solving ecological problems, the probability increases that these humans engage more in environmental-friendly behaviour and purchase rather green products than conventional products (Han et al., 2009). In the past years, the number of individuals which recognized the various ecological problems increased. Thus activities like upcycling, cut down of water and energy, less use of plastic and disposable products find more popularity (Han et al., 2010). This leads to the following Hypotheses:

H1. Attitude has a positive influence on green purchase intention.

In this thesis, the attitude concept will be expanded, and the influence of action related knowledge of green products will be researched (Tanner & Wölfing Kast, 2003; Wei et al. 2017). Knowledge could be defined as the memorized amount of information. This information directs the consumer preferences and is also able to change behaviour (Frick

et al., 2004). Different findings suggest that environmental knowledge influences green consumer behaviour, a overview of the main authors is presented in Table 3. In addition, a consumer with a higher level of knowledge and the associated problems of the environment perceive green products as more advantageous. Hence, these consumers possess more positive attitudes towards green products (Bang et al., 2000). Thus, a positive relationship between knowledge of green products, environmental knowledge and green consumer behaviour can be observed (Liobikienė et al., 2016; Peattie, 2001). This leads to the following hypotheses.

H2. Knowledge about green products positively impacts green purchase intention.

Table 3. Knowledge as an extension of attitude influences green purchase intention (Bang et al., 2000; Chan, 2001)

Authors	Title	Theory	Methodology	Finding
Bang, Ellinger, Hadjimarcou, & Traichal (2000)	Consumer concern, knowledge, belief, and attitude toward renewable energy: An application of the reasoned action theory	The theory of reasoned action	T-tests of Group Differences in Means	Knowledge about green products within specific industry or product-wise influences the buying behaviour of consumers.
Chan, (2001)	Determinants of Chinese Consumers' Green Purchase Behaviour	A conceptual model	Cross-Group Comparison	Ecological knowledge influences attitudes towards green purchases.

2.2.3 Subjective norm

The second factor is the subjective norm, it describes the dependency on others opinion whether the individual should or should not perform a certain behaviour (Ajzen, 1991). This factor has emerged to be an important driver of green consumer behaviour (Vermeir & Verbeke, 2008). Subjective norms may influence the actual purchase behaviour because subjective or social norms can exert pressure on individuals to perform a certain behaviour. In this case, this behaviour would be to buy green products instead of normal products. This pressure can be developed by social groups or social influence like parents and friends, see Table 4.

Furthermore, Ajzen and Fishbein found out that humans have different social groups, some of these may have some norms about sustainable consumption, including standards about green consumer behaviour and nature-friendly behaviour (Ajzen & Fishbein, 1980). Thus, this effect developed from group constellations or social surroundings may be a predictor of green purchase behaviour (Kang et al., 2013). This leads to the following hypotheses.

H3. Subjective norms have a positive influence on green purchase intention.

Table 4. Green purchase intention is influenced by the variable subjective norm (Vermeir & Verbeke, 2008; Kang et al., 2013; Liobikienė et al., 2016)

Authors	Title	Theory	Methodology	Findings
Vermeir & Verbeke, 2008	Sustainable food consumption among young adults in Belgium: Theory of planned behaviour and the role of confidence and values	Theory of planned behaviour	Stepwise multiple regression models	Subjective norm influences the green purchase intention.
Kang et al., 2013	Environmentally sustainable textile and apparel consumption: the role of consumer knowledge, perceived consumer effectiveness and perceived personal relevance	Theory of planned behaviour	Structural equation modeling	Subjective norm is a key determinant that impacts behavioural intention and thereby affects purchase intentions for ecological textiles and apparel.
Liobikienė et al., 2016	Theory of planned behaviour approach to understand the green purchasing behavior in the EU: A cross-cultural study	Theory of planned behaviour	Generalized linear regression model	Social pressure increments green buying behaviour, subjective norms exert a high impact on green purchase behaviour.

2.2.4 Perceived behavioural control

The last personal factor is perceived behavioural control. According to Ajzen (1991), it indicates if the consumer is able to purchase a product easily or whether it is difficult or impossible. This influencing factor is composed out of the belief that the presence of certain circumstances and factors may impact the performance of behaviour like time, money and opportunity. Additionally, the evaluation of the action and the perceived impact of this particular behaviour influences perceived behavioural control. Different studies researched the determinants of green consumption, depicted in table 5. The findings show that a significant influence of perceived behavioural control exists (Yadav & Pathak, 2017; Ma et al. 2012).

The time and resources to buy green products determine if the consumer can consume green products. Thus, the limited resources of these products can increase the action gap. Even when the consumer has positive attitudes towards green products the actual buying behaviour cannot happen. To research the state in the three countries it will be interesting which status the purchase of green products has to the consumer and how it influences green purchase intention (Kim & Han, 2010). As consumers prefer to have resources and opportunities to buy green products, this is examined in the following hypothesis.

H4. Perceived behavioural control significantly impacts the purchase intention of a green product positively.

Table 5. Perceived behavioural control is a determinant of green purchase behaviour (Liobikienė et al., 2016; Ma et al., 2012; Yadav & Pathak, 2017)

Authors	Title	Theory	Methodology	Finding
Liobikienė et al., (2016)	Theory of planned behavior approach to understand the green purchasing behavior in the EU: A cross-cultural study	Theory of planned behaviour	Generalized linear regression model	Availability of products within the reach of the consumer positively affects the green purchase intention.
Ma et al., (2012)	Young female consumers' intentions toward fair trade consumption	Theory of planned behaviour	Path model analysis	Perceived behavioural control is a key variable in determining consumer intention to buy a fair-trade product.
Yadav & Pathak, (2017)	Determinants of Consumers' Green Purchase Behavior in a Developing Nation: Applying and Extending the Theory of Planned Behavior	Extended Theory of planned behaviour including additional constructs	Structural Equation Modeling	A significant positive influence was found between perceived behavioural control and the individuals' intention to purchase a green product.

These three approaches are most commonly used in studies examining and predicting behaviour. Although some researchers found an attitude behaviour gap, this theory is still commonly used. This limitation will be examined thoroughly and a deduction for the

applicability will be provided. These factors influence the intention and that influences the behaviour (Ajzen, 1991). In the following, the impact on green purchase intentions in combination with cultural factors will be discussed.

2.3 Cultural factors – Hofstede's dimensions

Culture impacts the actions and behaviour of individuals and creates a behavioural framework that guides the members of a society (Kaasa et al., 2014). Additionally, various attitudes and behaviours of an individual can be impacted by their culture. Especially openness towards innovativeness and change, an individual's perception of ethical decision-making, norms for behaviour and other factors may be influenced by cultural dimensions (Vitell et al., 1993). The concept of culture has produced an extensive body of studies and conceptualizations from Hofstede (1980, 2001), Rokeach (1973), Hall (1966, 1976, 1984), Schwartz (1994) and Hampden-Turner & Trompenaars (1997).

The most recognized theoretical framework in management literature is the theory from Hofstede (1980). All the authors created related dimensions. Hall (1966, 1976, 1984) included a cross-cultural communications perspective and researched the micro-level. Rokeach (1973) designed a values classification instrument to associate values with beliefs and attitudes to receive an inside perspective. The instrument requires that the respondents rank and order 36 human values that could be restricted intro to three motivational domains (Rokeach, 1973). Seven dimensions based on aspects of dilemmas faced by each culture were classified by Hampden-Turner and Trompenaars (1997). Schwartz (1994) has a different approach, in his concept values form a circular structure, this means that each value and motivation impacts each other.

A theoretical framework to define differences between cultures and countries is the theory of the Hofstede cultural dimensions (Hofstede, 1980). Culture can be described as:

> *"the collective programming of the mind which distinguishes the members of one group or category of people from another"* (Hofstede, 1980, pp. 260).

Hofstede conducted a study in 1980 and categorized the similarities and differences of each culture. Across 40 countries the researcher categorized the cultures in four separate dimensions, from which the countries cultures can be distinguished: masculinity-femininity (focus on tasks versus focus on the person), power distance (importance of hierarchy), individualism-collectivism and uncertainty avoidance. In 1991 Hofstede continued the research and added a fifth dimension namely long-term orientation.

This added significant value to the field of cross-cultural studies and complemented the original paradigm. (Hofstede 1980; Hofstede 1991). However, it is important to mention that also personality traits and other influence factors are important for an individual's decision-making and evolution. Every individual is unique, and the country scores used in the cultural dimensions can only be significant when a comparison between different cultures is made (Hofstede, 1991).

The research of Hofstede has been reviewed and criticised often. A main point of criticism is that the team of researchers could be impacted by their own culture because the team consisted of Americans and Europeans. Therefore, a western stereotype could be enhanced, in the way, they asked the questions or their analysis, due to their own cultural biases. Furthermore, the respondents from this sample were all from one company IBM, Mc Sweeney (2002) argues that the sample could be too narrow for a generalization on a country level.

Another point is that the study was conducted between 1967 and 1973, as cultures are evolving and shaped by time, the study could be outdated. (McSweeney, 2002). To not depend too much on the numbers provided by Hofstede additional questions with culture-related statements were asked to test if the respondents could be categorized in the dimensions of Hofstede. Even though Hofstede's dimensions collected some criticism it is still the most acknowledged framework for assessing cultural differences (Steenkamp, 2001). Especially for cross-cultural comparison, the usability is high, as it classifies the impact of cultures (Randall, 1993).

As already explained, culture plays an important role in environmental issues and effects the purchasing of green products (Lu et al., 2015). Different studies analysed the relationship between cultural influence and behaviour, usage of the cultural dimensions of Hofstede can be assessed (Millan et al., 2013; Engelen & Brettel, 2011). As selected European countries will be analysed, it is relevant to contemplate how cultural aspects contribute to green purchase behaviour. The study of Liobikienė et al., (2016) provides interesting insights into the previously mentioned drivers for a green purchase intention.

Extending these studies and in the beginning the focus was on France, Greece, Germany and Finland to enhance the knowledge and credibility of the study. In the ongoing analysis France and Greece will be excluded. However, these countries were chosen because of the different scores in the cultural dimension. Thus, it is still interesting to validate the findings. Due to the increasing recognition of climate change, the green purchase intentions could be influenced and altered (Wei et al., 2017; Wells et al., 2011; Soyez, 2012), leading to the next hypotheses which will be discussed in the next chapters.

2.3.1 Masculinity versus femininity

In this dimension, a masculine society can be defined as being focused on solving tasks and receiving material rewards for it. Individuals are more oriented on achievement and the competition level is rather high. In contrast, is the feminine society, it is oriented on cooperation and the well-being of the individuals. Most important is a high quality of living for everyone and that also “weaker” individuals of a society are looked after. In addition, consensus between the individuals is important, contrasting the views in a masculine society where heroes and assertiveness are essential (Hofstede, 1980). In the study of Liobikienė et al. (2016) no significant relationship was found. Masculine societies were not performing a greener consumer behaviour than female societies. However, this dimension will be researched in this study as pro-environmental behaviour can be seen as a special form of helping. This value orientation is one of the most important

determinants of a female society defined by Hofstede (1980). According to the previously mentioned studies, the following hypotheses were formulated.

H5a. The higher the masculine dimension compared to feminine society the more negative is the impact on the green purchase intention.

2.3.2 Power distance

In every culture, an obvious and a non-evident hierarchy is deeply embedded. Power distance (PD) expresses the degree to which individuals in a society being less powerful think that power is unequally allocated. Additionally, it describes the extent to which these individuals respond to hierarchy and the acceptance toward it. In high power distance countries, individuals are willing to accept hierarchy and the pre-set order of it. An equal distribution of power is inconceivable. However, people in societies exhibiting a low degree of power distance strive and demand justice. Most significantly is that power distance distinguishes how societies treat injustice and disparity among their individuals. (Hofstede, 1980).

Further, in Hofstede's research two corresponding topics operationally define work-related power distance. First, Hofstede assumes that in a country with high PD the person in a lower rank behaves obsequiously if a higher-ranked person is around. This behaviour was further specified as the low willingness to disagree to a higher ranked person. The second theme refers to the subordinates' preferred style of being supervised and organised. In countries with a low PD, an open and consultative management style is favoured. Contrasting to the preferred management style of having a leader and paternalistic person in the higher ranks (Hofstede, 1980; Bochner & Hesketh, 1994).

In the study of Bochner and Hesketh (1994) the power distance concept was tested and supported. Individuals from a high PD country rated contact with their supervisors as very important. Further, close supervision and direct communication by the higher-

ranked individuals was performed (Bochner & Hesketh, 1994). However, cultural dimensions may not have an impact on green purchase behaviour in the European Union. Liobikienė et al. (2016) contend that PD impacts subjective norms, in their research a significant influence was found as individuals from higher PD countries tend to have stronger subjective norms. Such approaches, however, have failed to address the general issue of the Hofstede dimensions which is that the data could be outdated. (Liobikiene et al., 2016). This is the reason for testing partially the scores in this thesis, the hypothesis is the following.

H5b. The higher the power distance in a country the higher is the positive influence on the green purchase intention.

2.3.3 Individualism versus collectivism

The cultural dimension of individualism describes the extent to which an individual belief its life, values and decisions is sovereign from others. Collectivism describes the opposite paradigm. In a collectivistic society, the overall belief is that the wellbeing of the group is more important than the own wellbeing (Hofstede, 1980). Liobikienė et al., (2016) examined that subjective norms are negatively related to the level of individualism. Moreover, this cultural dimension negatively impacts the knowledge of green products. Hence, this dimension of culture formed in Western countries could implicitly exert a negative influence on green buying behaviour as well. Another interesting finding is that individualism and the counterfeit collectivism moderates the effect of trust and performance in long-term orientation. The researchers examined buyer-supplier relationships in international markets (Voldnes et al., 2012).

In contrast, a positive relationship between the impact of collectivism on attitude towards green product purchases was ascertained. One reason why the relationship is positive lies in the collectivist nature as individuals are expected to behave passively and adapt their interest towards the group interest (Chan, 2001). McCarty and Shrum (1994)

argue that individuals from a collectivist society are more cooperative compared to those from an individual society.

The study showed that this cultural dimension affects environmentally-friendly behaviour, as recycling behaviour was influenced through the mediating variable of attitudes towards recycling (McCarty & Shrum, 1994). That means that it is possible that in a collectivist society with a strong focus on environmentally friendly behaviour it is more likely that for example, recycling is more important to households. Compared to a society with individualism, the effect of this focus on recycling would be rather small. (McCarty & Shrum, 1994). The following hypothesis was formed by former studies.

H5c. A negative influence on green purchase intention can be examined if a country tends to have more individualistic characteristics.

2.3.4 Uncertainty Avoidance

Uncertainty avoidance characterizes the individual's response to ambiguous or uncertain situations. It indicates to what extent an individual can feel comfortable or uncomfortable in such a situation (Hofstede, 2001). One significant finding of uncertainty avoidance is that it had a significant impact on subjective norms, the importance of price level and knowledge of green products. A high score of uncertainty avoidance positively influences the level of knowledge of green products, this shows the existent interest in green products. This could also affect the green purchase behaviour (Liobikienė et al., 2016).

In addition, researchers investigated that product uncertainty depending on consumer evaluation and choice depends on uncertainty avoidance. As already described a product uncertainty towards green products exist because of the lack of green trust. Interaction between product uncertainty and cultural uncertainty avoidance persist (Anne et al., 2007). However, a lack of studies exists in which the interaction between cultural

dimensions and green purchase behaviour is examined. (Hofstede, 1980). According to the previous discussion, the following hypothesis was proposed.

H5d. A high score of uncertainty avoidance has a positive influence on green purchase behaviour.

2.3.5 Long term orientation

Long-term orientation will be further explained, and previous findings will be examined. Long-term orientation describes the dimension focussing on the future. The individual of such a culture is prepared to delay short-term material or social success to prepare for the future. Such individuals value persistence, perseverance, saving and can adapt to changing circumstances (Hofstede, 1991).

Liobikienė et al., (2016) found out that that long-term orientation negatively impacts confidence in green products. Consequently, when long-term orientation is propagated it could indirectly have a negative influence on green buying behaviour. Chen and Chang (2012) supported this finding and proposed that companies should enhance green trust to prime green purchase behaviour, this leads to the proposed hypotheses.

H5e. Long term orientation has a negative influence on green purchase intention.

2.3.6 Hofstede dimensions and scores in the selected countries

A short overview of the cultural dimensions and the corresponding tendencies in the selected countries is provided in table 6. France and Greece are not included because of the low number of responses. Therefore, only Germany and Finland are included in this analysis. As already explained various discussions about the actuality of the Hofstede dimensions and the respective applicability of them to analyse behaviour in different

countries exist. In this research those dimensions are included, therefore as the last step, the tendencies of the following table will be examined and carefully compared. This comparison can be seen as a slight tendency if the values are still up-to-date, this comparison is not generalizable as the sample group has age and nationality restrictions.

Table 6. Selected Countries categorized by Hofstede's (1980; 1991) cultural dimensions (Hofstede et al., 2010)

	Finland		**Germany**	
Masculinity/ femininity (MAS)	26	Feminine society	66	Masculine society
Power distance (PDI)	33	Low PDI	35	Low PDI
Individualism/ collectivism (IDV)	63	Individualist society	67	Individualist society
Uncertainty avoidance (UAI)	59	High UAI	65	High UAI
Long/short term orientation (LTO)	38	Short term orientation	83	Long term orientation

The first dimension describes whether society is more feminine or masculine. As already described before, a masculine society is driven by competition and reward. In contrast, a feminine society values the quality of life and caring for others. In table 6, Germany is considered as a masculine society. Finland differs from these results and shows with a score of 26 that this country has a feminine society. This is also reflected in their lives as equality, harmony and solidarity in their working lives are important. The second dimension listed in table 6 is power distance it deals with the fact that the individuals in a society are unequal. Germany and Finland score low on this dimension, meaning that being independent and having equal rights is important for most of the members in these countries. In the workplace, these points are reflected in a supervisor who supports and empowers others.

Again, Finland and Germany score intermediate in the individualism dimension. In individualist societies, the families and the individual itself are most important. Differing from collectivist societies like Greece where the individuals are from birth on closely integrated into a strong cohesive in-group. This is especially characterized by the extended family; all members protect the group and tend to be loyal. In the fourth listed dimension uncertainty avoidance, all countries score high. In countries with high uncertainty avoidance bureaucracy and rules are important. Furthermore, rules and laws enhance the quality of life because it is also seen as safety.

In the last listed dimension, the question of how societies remember and connect with the past and tackle the challenges of the present and future is described. Finland scores as a normative society, resulting in a preference for traditions and norms. Changes in society are suspect to most of the people within these societies. By contrast, Germany scores high with 83 indicating that the society is more pragmatic. Individuals within this society believe that saving and investing, adjustments within traditions to modern conditions and endurance to achieve results is the key to a successful society. The impact of culture on green purchase behaviour was mentioned in the chapter before. It can be summarized that the influence of the dimensions on green purchases differs but the majority shows that influence could exist.

2.4 Green purchase intention

Green purchase intention has been examined by different researchers; the term describes the likelihood of a consumer to purchase a green product. The goal of this intention is to meet the individual's environmental needs and satisfy them. In general, is intention defined as a course of action that an individual tends to follow and aim or objective that guides an action (Netemeyer et al., 2005). One of these objectives which may guide the intention is the attitude towards this aim or objective. In this research project, the influence of environmental attitude on the purchase intention of a green product will be explored. Chen (2010) found out that the environmental attitude determines the

individual's attitude towards green products. Meaning that an individual to contribute to environmental sustainability is more likely to have a positive attitude towards green products, which will impact the green purchase intention positively (Wei et al., 2017). This finding was already expressed by Kinnear et al., (1974).

Nowadays, some researchers evaluate this relationship differently because an attitude behaviour gap was found. Johnstone and Tan (2015) state that consumers pretend to be interested in the environment, but their buying behaviour shows the opposite. The inconsistencies suggest that consumers' environmental attitudes not always translate into actual green purchase behaviour (Pickett-Baker & Ozaki, 2008; Carrington et al., 2010). Investigating the impact of the drivers on the green purchase intention may result in new explanations for the attitude behaviour gap. To examine this gap between the theories will provide the reader with interesting and new findings. These discussions result in the following hypothesis.

H6. Consumers' green purchase intention is positively related to their green purchase behaviour.

To finish, all these concepts and theories are conceptualized to a theoretical framework that provides guidelines for marketers and policymakers to increase the purchases of green products.

2.5 Theoretical framework

The theory of planned behaviour factors can be divided into the attitude towards behaviour, subjective norms and behavioural control. The first factor is the attitude, this concept will be expanded, and the influence of action related knowledge of green products will be researched (Tanner & Wölfing Kast, 2003; Wei et al. 2017). The second factor is subjective norm reflecting the influence of others opinion on the decision process of the individual and the last personal factor is perceived behavioural control (Ajzen, 1991).

This concept will be expanded and the influence of knowledge about green products on the purchase intention will be explored. Due to critical studies about the applicability of the theory of planned behaviour in consumer research (De Cannière et al., 2009) an extension of the formerly used variables was performed (Liobikienė et al., 2016; Armitage & Conner, 2001). These three approaches are most commonly used, in studies examining and predicting behaviour.

Attitude and knowledge, subjective norm, perceived behavioural control impact the intention and the intention to conduct a green purchase influences the actual buying behaviour (Ajzen, 1991). It has been proved, to enable researchers to establish a credible framework for conceptualising, examining and empirically identifying determinants that drive intentions and behaviour (Montano et al., 1997). Contextual factors like culture, age and gender will be examined regarding green purchase behaviour. Culture and its cultural dimensions influence an individual's everyday life (Hofstede, 2001). In the following, the preliminary theoretical framework is presented.

Hence, the theoretical framework is developed mainly by an in-depth analysis of literature (Saunders et al., 2009). The main purpose of this master thesis is to extend earlier studies by determining the opportunities and challenges of green consumer behaviour and the impact of green purchase intentions. Consequently, all four theoretical parts of the literature are combined into a theoretical framework, this will provide theoretical suggestions for marketers and policymakers to increase the awareness of green products and enhance the green consumer behaviour.

To explore the applicability and practicability of the proposed framework, a critical view of the proposed model will be provided. In addition, quantitative methods can yield information about the drivers of consumers' purchase intentions, and how they could be impacted contrastingly because of being influenced by different nationalities.

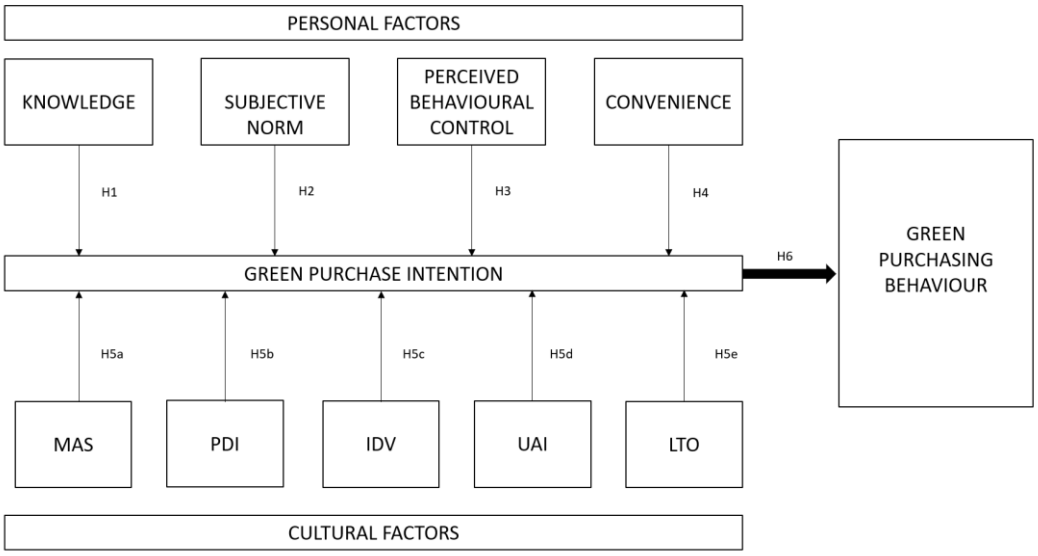

Figure 2. Theoretical Framework (Ajzen, 1991; Liobikienė et al., 2016)

3 RESEARCH METHODOLOGY

The research could be described as a way to collect and interpret data systematically to extend knowledge (Ghauri & Grønhaug, 2005). The word systematically highlights the importance of a structured and objective approach, as research is based on logical relationships and not subjective beliefs. A researcher has to decide between various ways to conduct the research. A solid basis is given when a coherency is created on four different levels such as determining the research problem, finding a research philosophy, specify the research design and develop a theoretical understanding (Saunders et al., 2009).

The purpose of this research is of descriptive and exploratory nature, aiming to explain some crucial and important characteristics in consumer behaviour. As one part of the hypotheses are developed based on an existing theory developed and extended by Ajzen (1991). The personal factors influencing the green purchase intention are following the descriptive approach. The second part of the hypothesis formulation, the cultural factors, were already tested by Liobikienė et al. (2016), this research extends the findings and studies different drivers. Therefore, the second part aims more at finding out which influence culture plays in the light of the green consumer behaviour. An exploratory study is deducted to generate new insights and study phenomena differently. Hence, an extensive search of the literature has been carried out.

To be coherent, the second and third aspect is explained in this chapter. The methodology is influenced by the research formerly conducted. This introduction is followed by an analysis of the research approach. Further, the method of data collection and the sample are discussed in more detail. This chapter ends with an analysis of the reliability and validity of the thesis.

3.1 Research approach

This master thesis will take a deductive approach. A structured process for testing a theory is the purpose of this approach (Maylor & Blackmon, 2005). The theoretical framework is developed from former studies and literature, consequential the hypotheses are deduced. Deriving from the deductive approach, the research philosophy of positivism is applied. As the research reflects the philosophy of positivism only phenomena that are observed lead to the production of testable data. The inductive approach is not reasonable for this study as it premises that the data is the first source of knowledge and the empirical research leads the researcher to build a theory from that. As in this study, the cultural, as well as, the personal factors derive from theory a deductive approach is the most convincing research approach.

To test the hypotheses, quantitative data and a statistical analysis were used. As a result, a quantitative approach in the form of an online survey is the most applicable way to collect data. Furthermore, consumer attitudes towards green purchasing behaviour will be explored, to create an understanding behind the impact on culture on green purchase behaviour. A causal relationship between various variables can be explained by the deductive approach (Saunders et al., 2009). Hence, adapting the deductive approach is the best choice to accomplish the study. However, Miller (1983) and Sekaran (1992) criticize that a deductive approach could also lead to explanatory results.

In this research the hypotheses are conducted from literature and previous studies, hence hypotheses have been already tested. The objective is to examine the relationship between dependent and independent variables. In addition, the direction of impact between these variables is measured. In this type of research mostly quantitative methods are applied. According to Saunders et al. (2009) is the testing of hypotheses on a statistical manner applicable through quantitative data. To collect data an electronic survey was used as a data collection tool. In the following chapter, the research design and strategy are discussed. This suggests that after a consideration of all these facts a quantitative approach is the most valuable approach for this thesis.

3.2 Research design

Quantitative studies primary purpose is to generate knowledge and create an understanding of the social world (Saunders et al., 2009). Consequently, the research aims to identify and explore the potential drivers for green purchase intentions and to build a theoretical framework. As this research follows a structured model, systematic and focused data collection will help to answer the research question and to reach the research objectives (Ghauri & Grønhaug, 2005). In other words, first, the theory was studied deducing the hypotheses. Then the empirical research is performed to determine whether the hypotheses could be supported or not.

The research design works as a framework for collecting and analysing data (Bryman & Bell, 2007). The quantitative method chosen for this master thesis is a web-based survey. Hence, a questionnaire is developed. Answering the research problem comprehensively a generalizable data sample is needed. This fact indicates that a large number of respondents help to fulfil the purpose of this thesis. A survey is best applicable when a large amount of responses from individuals is needed because it is time-saving and cost-effective (Miller, 1983). In this research the data is presented in numbers, therefore the statistical analysis and testing of hypotheses are possible.

Although it is an economic instrument, certain problems exist with using the survey as a data collection method. To begin with, the fact that the researchers are fully dependent on the respondent's readiness and disposition to do the survey (Ghauri & Grønhaug, 2005). This fact will be further analysed in the reliability and validity chapter. Furthermore, Saunders et al. (2009) stated that the form of a survey determines the possible amount of questions asked. Often it is superior to achieve a good response rate while conducting a survey, hence the questions have to be precise and appropriate in length. In case the questionnaire embeds to many questions the response rate can be negatively impacted. A reason for that is the decreasing attention and willingness to complete the survey.

Most significant is the fact that with a small sample, a generalizable conclusion to the whole population is not possible. Miller (1983) further criticizes that the application of surveys has led to an over-simplifying of relationships between different variables. One main weakness is also that surveys neglect the behaviour of humans and institutions.

However, as the survey is the best applicable tool in data collection, it will be selected. Especially in student research, it is commonly used (Saunders et al., 2009). The questionnaire consisted of 64 statements that approached the researcher's main interest areas such as demographics, personal influence factors and the impact on culture on green purchase behaviour. The survey was structured into 4 statements per variable. The questionnaire is in English and was piloted to family and friends. According to the final feedback of the pre-test several changes were made to provide more clarity and assure that the respondents understand the statement. As the target audience is people from 18-34 years the survey was not translated, because the majority of this group speaks English.

In general, Saunders et al. (2009) concluded that question types in a survey can be differentiated by using open-ended questions and closed questions. The data capture and input were conducted by clear closed list questions, here respondents selected and marked their answers from a prescribed list. As a respondent, there was no possibility given to skip a question to receive responses to all statements. This affects the study positively and negatively considering reliability. Positive is that the respondents provide the researcher with an answer to the statement. On the other hand, more attention is needed from the respondent, because every statement has to be precisely examined and answered. Furthermore, the case might exist that a respondent has to choose a response option even when there might be no suitable one. This problem was solved by offering the responses in a 5-point Likert scale and by giving the respondents the possibility to choose "neutral" or "other" when needed.

To achieve a high response rate, the respondents will answer a self-administered questionnaire. It was administered electronically using the internet. All in all, the use of quantitative data also enables the testing of hypotheses in a statistical manner (Saunders et al., 2009).

3.3 Data collection and sample

The form of data collection was an online survey, the questions were based on precise literature review and former survey items. Since the survey was published on international social media sites, the results are collected from various countries in Europe. However, the focus was in the beginning on four European countries namely Finland, Germany, Greece and France. However, France and Greece had to be excluded to fulfil the needs of a master thesis in international business. Moreover, a cross country study enables the researcher to gain more interesting insights depending on the diversity of people of different countries. The survey was spread cross-sectional by creating a sharable link in a common survey software namely SoSci-Survey. As already mentioned, the link was published on social media sites and circulated through emails and internet forums regarding sustainable shopping. An international audience was reached in the predetermined countries and the reliability was increased by fulfilling the cross-cultural aspects.

Within the survey, clear instructions about how to fill out the survey were given. Furthermore, some basic definitions were presented based on the feedback for the pre-test such as green products and the understanding of the term “group”. This enhances the common understanding and the clarity of the survey. As the determinants of green consumer behaviour are researched the survey was spread to everyone and no special costumer segment was targeted. To avoid possible misunderstandings of the statements and instructions a pre-test was conducted. The respondents were chosen based on the nationality to test whether a non-native speaker could understand the statements. Additionally, several persons with English as their first language tested the questionnaire to prove grammar and use of words. The pre-test resulted in a change of the statements

and a more unprecise instruction to ensure that the respondents are completely bias-free.

This research examined the measurement items from previous studies and all scales contained multiple items. This research adopted four items from Chang (2011) about attitudes towards green products (ATT). To test the knowledge of green products (KN) two adapted items from Bang et al. (2000) were used, to extend the insights of the influence of knowledge on green purchase intentions the factual ecological knowledge was tested with two items from Tanner & Wölfing Kast (2003). A scale from Kim and Han (2010) and Soyez (2012) was used to measure subjective norm (SN). Kim and Han's (2010) four-item scale was used to measure perceived behavioural control (PBC). The scale of Paul et al. (2016) was applied to measure green purchase intention (GPI). Finally, this master thesis adapted the items from Shrum et al. (1995) to examine green purchase behaviour (GPB). To measure the actuality of the Hofstede dimensions and the impact it might has on green purchase behaviour various studies and Hofstede's Value Survey Modul was used (Hofstede & Minkov, 2013; Hofstede et al., 2010). A detailed overview of the questionnaire and the underlying constructs are provided in appendix 1.

4 EMPIRICAL RESEARCH AND RESULTS

In total, 263 people answered the survey online in four countries namely Finland, France, Germany, and Greece. Not enough responses were gotten from France (20), a structural equation model could not be performed. In addition, several values in the Greek sample were missing. The data screening process will be explained in more detail in chapter 4.1. As a result, these countries could not be included in this study. Answers from Finland and Germany were accepted. In the end, N=176 responses could be used for this study. In the following table 7, the distribution of participants per country is depicted.

Table 7. Overview of country distribution

Country	No. of Respondents	% of N
Germany	85	32.3
Finland	91	34.6
France	20	7.6
Greece	67	25.5

As a start, descriptive data were analysed using the SPSS software. The results are examined in the following chapter. Due to their higher internet competence, younger respondents were largely represented in this survey (Francis & Hoefel, 2018). Furthermore, more female respondents participated in this survey as it could be argued that it lies more in the personal interest area. To further test if all constructs under investigation are valid and reliable a confirmatory factor analysis (CFA) was conducted. Therefore, the extension of the SPSS software AMOS version 26.0 was used. After the proof of the data and the use of the model, a structural equation model (SEM) was employed to determine the overall fit of the proposed model. In addition, all relevant path coefficients were estimated.

Structural equation modeling is a widely used statistical procedure to test whether the collected data fulfils the requirements for the theoretical model (Weiber & Mühlhaus,

2014). This instrument is a hybrid of factor analysis, multiple regression analysis and path analysis. It enables the researcher to measure the structural relationship between the important variables and latent constructs. This instrument was proven to suit this type of research as several studies conducted SEM with convenient results (Chan, 2001; Yadav & Pathak, 2017; Kang et al., 2013)

A detailed explanation of the findings and results of the previously described steps is provided in the next chapter.

4.1 Data screening

The first step to achieve a reliable and valid model is to ensure that the observed data is clean, complete, and coded correctly. Furthermore, it is a requirement to test the causal theory validly and reliably. Some data from the survey was inverted as the data was measured on the same range but a diverging formulation of the statements existed. MF_01 and MF_02 were inverted to measure if the people from one country feel more related to values of feminine society. The variable LTO_02 was also inverted because it was measuring short term orientation, to compare all the data as a long-term orientation the range was inverted. No cases were removed due to not being engaged. Furthermore, there were no outliers as all data had to be chosen from a pre-set list of options.

In general, missing data or error in data can result in incorrect results. Especially, when conducting a structural equation model analyses, it is important to check the data to assess the correct amount of data points to compute estimates. This is important for conducting the exploratory and confirmatory factor analysis. Additionally, missing data can report bias issues. A certain number of participants may do not answer particular questions because of common issues. The researcher used the SPSS tool to analyse the missing values for each variable. In the Greek sample, more than 10% of the responses on the variable green purchase intension and uncertainty avoidance were missing.

Therefore, the Greek sample may have bias and was therefore excluded. The same approach was used for the construct long-term orientation. Long-term orientation was initially proposed to include all Hofstede constructs. As already described in chapter 2.3.5 the researcher Liobikienė et al., (2016) examined that it has only an indirect effect on confidence in green products which is a factor which could have been tested with the construct of attitude. However, in this study, this factor was not tested. Therefore, no effect can be expected and as the number of missing data is more than 10%, the construct was excluded. For the rest of the sample, two missing values in ATT_01 and one in COL_02 were observed. The researcher looked at the surrounding values of the other indicators for the latent factor attitude and used the mode value for that respondent to impute the missing values (Lynch, 2007).

Another part of the process of data screening is to examine the normality of the sample. Normality describes the distribution of data for a certain variable and is assessed through shape, skewness, and kurtosis. The researcher observed normal distributions for most indicators of latent factors and all other variables (e.g., age, education) in terms of skewness. The factors MF, PD and UA showed a mild kurtosis and skewness. Nevertheless, a mild kurtosis for the indicators of the dependent variable (GPI) were examined. These kurtosis values ranged from benign to 2.0. While this does violate exact rules of normality, it is within more relaxed rules proposed by Sposito et al. (1983) who recommend 3.3 as the upper threshold for normality.

4.2 Description of the data

In total, 263 people answered the online survey. The survey was allocated in four countries namely, France (20), Germany (85), Finland (91) and Greece (67). As explained in the previous chapter Greece and France had to be excluded due to the small sample size and the high percentage of missing data. Table 8 presents the results obtained from the descriptive analysis; the majority of respondents were female (65.3 %). Only one respondent chooses the other gender option. Over half of the respondents were 25-34

years old (60.8 %), followed by 18-24 years old (39.2 %). Most respondents highest level of education was a master's degree (36.9 %), while nearly the same percentage carried out a bachelor's degree (35.8 %). Additionally, the yearly household income for more than half of the respondents was over 19.999 €.

Table 8. Sample Characteristics of Finland and Germany

Demographic	Characteristic	No of re-spondents	% of N
Gender	Female	115	65.3
	Male	60	34.1
	Other	1	0.6
Age	18 – 25 years	69	39.2
	26 – 31 years	107	60.8
Level of education	High school	20	11.4
	Secondary school-leaving certificate / Junior High Diploma	15	8.5
	Bachelor´s degree (e.g. BA, BSc)	63	35.8
	Master´s degree (e.g. MA, MSc)	65	36.9
	Professional degree (e.g.MD, DDS)	5	2.8
	Doctorate (e.g. PhD, EdD)	2	1.1
	Other	6	3.4
Household income (yearly)	under 19 999€	68	38.6
	20 000 – 34 999€	18	10.2
	35 000 – 49 999€	22	12.5
	50 000 – 74 999€	18	10.2
	75 000 – 99 999€	11	6.3
	100 000€ or over	23	13.1
	Prefer not to say	16	9.1

4.3 Reliability and validity

A study is dependent on reliability and validity as both measurements define the credibility of the research. Reliability describes whether the data measurements or the analysis methods will present consistent findings. Research is reliable when the results can be replicated or have formerly been observed by other investigators. Furthermore, is the concept of transparency important, especially in the description of the findings and the sensemaking from the raw data (Easterby-Smith et al., 2008). As the questions in the survey were used from former research the credibility is increased. In addition, the studies researched the same phenomenon.

There are several threats to reliability when conducting research. A first risk could be that the respondent has a different understanding of a question or answer than the researcher (Ghauri & Grønhaug, 2005). To enhance reliability the study was tested with a natural English speaker and foreign English speaker. Misunderstandings were clarified after the pre-test and particular questions were reworded. Most of the respondents were familiar with international business and marketing. However, some questions could be misunderstood if the respondents were not familiar with the vocabulary of business or in general with the academic English language.

Another threat to reliability is that in an attitude measuring survey the researcher is dependent on the respondent's honesty and sincerity. Respondents might answer within in a short time horizon and do not pay enough attention towards the choice of answers. Adding to this point the possible reluctance of respondents can be another risk for reliability. Respondents can refuse or even give false answers in the questionnaire (Ghauri & Grønhaug, 2005). In this questionnaire, there should be no threat of the reliability by these points, as all respondents were informed of the confidentiality and anonymity.

Mistakes can occur when analysing and coding the gathered data. The data was collected electronically, and it was coded to meet the requirements for the Statistical Package for Social Science (SPSS) and AMOS 26.0. Further, the data was stored and categorized to

ensure that improper data will be removed. This decreases the probability of mistakes made while analysing and coding the data. The data collected through the questionnaires is numerical, hence the consumers are asked to rate the statements on a five-point Likert scale about whether personal or cultural factors influence the green purchase behaviour. Thus, the dependent variable is green purchase behaviour and the independent variable personal and cultural factors. The Likert scale enables the researcher to compare responses of different cultural groups (Saunders et al. 2009).

In the following analysis an exploratory factor analysis will be conducted, followed by confirmatory factor analysis to prove the validity and reliability of this research.

4.4 Exploratory factor analysis

The aim of the exploratory factor analysis (EFA) is to determine the correlation among the variables in the data set. A researcher can explore the grouped variables based on strong correlations and a factor structure evolves. Ferguson and Cox (1993) suggest that for every new dataset an exploratory factor analysis should be conducted. In this analysis no assumptions about the belonging of items to constructs are applied, so no a priori theory condition is requested. Further explained that means that in this first analysis problematic or biased variables can be distinguished. For this study, an EFA was conducted using Maximum Likelihood Estimation with a Promax rotation to examine if the observed variables load on each other as projected, were correlated, and met the criteria of reliability and validity. The maximum likelihood method was used to determine the unique variance among items and the correlations between factors. In addition, this estimation was chosen to remain consistent with the subsequent confirmatory factor analysis. Reasons for the use of the oblique rotation Promax are that a certain set of indicators regarding content are related to the same construct. Therefore, a certain correlation should be assumed between the indicators and the construct, if the EFA extracts more than one factor (Mulaik, 1972).

First, the appropriateness of the data will be explored. Therefore, the Kaiser-Meyer-Olkin measure and Bartlett's test for sampling adequacy was carried out and was found significant. All values are showed in the appendix 2 table 16. The communalities for each variable were sufficiently high ranging from .321 to .919, displayed in appendix 2 table 17, except one individual item SN_02 which had a communality of .263. This item was still included in the ongoing analysis as the theoretical contribution to the theory of planned behaviour is substantial. The data of the adequacy measures are presented in Appendix 2.

Second, the Cronbach's alpha for the extracted factors are presented below, along with their labels in table 9. Reliability can be tested statistically by conducting Cronbach's alpha. Using this method provides the researcher with data about the reliability among items of each construct. The questions about cultural and personal factors as well as green consumer purchase intention were tested with SPSS reliability analysis. Cronbach's alpha values ranged between .608 to .874, not all constructs met the cut-off value of 0.7. However, due to former research and logical reasons, the four items under the cut-off value were included in this research (Nunally, 1978). As the sample size is low the reliability is decreased.

However, in the study of Yadav and Pathak (2017) the construct subjective norm (SN) easily met the cut-off value and was included. Similar studies mentioned in chapter 2.2.3 can be found where this construct is included, this provides the researcher with enough information to accept the construct as reliable. The other construct, namely uncertainty avoidance (UA), power distance (PD) and knowledge (KN) will be included because Cronbach's alpha is very close to 0.7. Further, are these constructs rarely studied in this context which increased the interest of future findings.

Table 9. Measurement Model: reliability

Construct Name	No. of Items	Cronbach's Alpha
ATT	4	.781
KN	2* (2 out)	.696
SN	3	.608
PBC	3* (1 out)	.709
GPI	4	.874
GPB	4	.731
MF	2* (2 out)	.753
PD	4	.696
COL	4	.750
UA	3* (1 out)	.690

The following items are excluded: KN: 3 "More energy is used for producing and transporting food products than the body receives through nutrition." and KN: 4* "Less energy is used for meat production than for the equivalent amount of vegetables.". PBC: 2* "If it is entirely up to me, I am confident that I will purchase green products." MF: 3* "Doing a service for my friend is very valuable for me.", MF: 4* "I want to have sufficient time for my personal or home life." UA: 4*: "Instructions for operations are important.".

Third, validity must be examined. The validity of a research project can be described as the ability of the survey to measure what was supposed to measure. Saunders et al. (2009) differentiate between internal and external validity, the first form refers to how well the questionnaire reflects the issues within a theory. External validity also known as generalizability examines if other researchers interpret the findings in the same way. In this master thesis, the survey was established based on former studies which were tested and from well-rated journals. This increases the validity significantly as the same items have been used before in academic research. Convergent validity explains the high correlation between the variables within a single factor. Sufficient loadings depend on

the sample size, in this study a sample size of 176 was achieved therefore the factor loading should be at least >.4 (Hair et al., 2010).

To achieve convergent validity the pattern matrix was analysed and items with a non-sufficient factor loading and cross-loading were eliminated within the EFA, namely GPB_04, ATT_01, ATT_02. In addition, a clear pattern matrix was aimed therefore the two items SN_01, KN_01 and PBC_ 01 with small to moderate loadings are still included. The pattern matrix is shown in table 10.

Table 10. Pattern Matrix[a]

	Factor									
Item	1	2	3	4	5	6	7	8	9	10
ATT_01				1.066						
ATT_02				.682						
KN_01										.391
KN_02										.460
SN_01								.312		
SN_02								.503		
SN_03								.980		
PBC_01							.114			
PBC_03							.524			
PBC_04							1.010			
GPI_01	.914									
GPI_02	.831									
GPI_03	.748									
GPI_04	.683									
GPB_01									.646	
GPB_02									.435	
GPB_03	*.302*								.594	
MF_01						1.033				
MF_02						.566				
PD_01			.593							
PD_02			.682							
PD_03			.612							
PD_04			.655							
COL_01		.777								
COL_02		.747								
COL_03		.630								
COL_04		.537								
UA_01					.779					
UA_02					.537					
UA_03					.628					

Extraction Method: Maximum Likelihood.
Rotation Method: Promax with Kaiser Normalization.
a. Rotation converged in 7 iterations.

It is important to mention the existence of one cross-loading within factor 1 and the construct GPB_03. However, the cross-loading of GPB_03 on GPI differ by 0.2. However, the general rule exists that the variables should relate more strongly to their factor than to another factor and that is the case. In this thesis the EFA is accepted as exploratory and can be treated as such. The researcher wants to preserve as much as possible and still be generating valid results. Therefore, the heywood cases are kept namely ATT_01, PBC_04 and MF_01 (Costello & Osborne, 2005). As a result, discriminant validity can be partly supposed. This ten-factor model had a total variance explained of 58 %, with all extracted eigenvalues above 1.0.

In student research, the exploratory factor analysis aims to show the researcher a possible factor structure. However, most researchers propose to examine the findings and the items carefully. The most common problem is that in practice and especially in exploratory research the EFA does not result in a clear pattern matrix. Therefore, it is important to not let statistics drive the theory meaning deleting various constructs which are related in theory. In the following confirmatory factor analysis, the two items ATT_03 and ATT_04 are included as they have a significant theoretical meaning for the construct attitude. As a result, this exploratory factor analysis validates only partly that in this model the constructs are distinct confirming discriminant validity. Furthermore, it reconciles that each construct measures a single factor confirming convergent validity.

4.5 Confirmatory factor analysis

The first step, while conducting a confirmatory factor analysis is to validate the model fit. The fit of a model refers to how well the proposed model accounts for the correlations between variables in the data set. Specific measures are used to define the goodness of fit, these measures are inversely related to the sample size and the number of variables in the model. As the sample size is relatively low, especially when determining the model in each country separately, it could be that the model fit is only acceptable. A confirmatory factor analysis predicts the model fit, for that the software AMOS 26.0 was used.

At initial the CFA results showed an acceptable fit of the model ($\chi 2$ = 1262.461, $\chi 2/df$ = 1.568, SRMR = .075, CFI = .812, RMSEA = .057). Modification indices were consulted to determine if an opportunity of improving the model exists. Accordingly, the researcher covaried the error terms of the items ATT_03 and ATT_04, namely e11 and e12. However, four items (PD_01, COL_01, GPI_01, GPI_03) were deleted due to low standardized direct effects. This method enables the researcher to increase the reliability of the items because the covariance applying between these items is also deleted. This, in turn, decreases the measurement error (Ford et al., 1986).

In addition, it is important to mention that due to the low sample size the other variables were included, to explore if interesting findings can be detected. This prevents the researcher to eliminate variables in an early status and miss innovative findings. Another important point is that according to Anderson (2003) the statistical significance indicated by the model fit is determined partly by the sample size. As a result, small populations can make statistical tests insensitive. However, in this research, after the deletion, the model fit of the CFA was improved ($\chi 2$ = 415.840, $\chi 2/df$ = 1.496). The value of CFI was .905, in general, CFI predicts a good model fit when the value is .90. SRMR of .076 was obtained for the proposed model, values smaller than .090 suggest a good fit. Moreover, the RMSEA value for the model was .053. The RMSEA value should be between .03 and .08 to be acceptable. In conclusion, it can be said the proposed model has an excellent fit.

The next step after validating the model fit is to test the convergent validity with the average variance extracted (AVE) and composite reliability (CR). The AVE of ATT, KN, GPI, MF meets the suggested criterion of .5 (Fornell & Larcker, 1981). However, to assess the explanatory power of the general model it is important to consider both measurement and theory. As this research is more of exploratory nature and the constructs of Hofstede and the impact on green purchase intention have rarely been studied, the author proposes to include the constructs to be able to generate new findings. As these constructs have validity issues the possible findings will be interpreted carefully. For Power Distance,

the AVE was .402, for Collectivism .404 and for Uncertainty Avoidance the AVE was .436 as visible in Table 11. However, as this factor is minimally correlated with the other factors in the model, and because the reliability score of all constructs was very close to .700, the researcher felt this was admissible. Also, for the constructs of Perceived behavioural control and green purchase behaviour, the AVE did not meet the suggested criterion of .5., both reliability score (.709 and .731) were greater than .700. Hence, these constructs are not especially strong internally, they are, at least, a reliable and distinct construct within the model. Therefore, the other constructs will be included in the primary measures and conceivably later excluded.

Values of composite reliability range from .589 to .991. All constructs meet the criterion of 0.6 and higher, except uncertainty avoidance which is included with two items (Bagozzi & Yi, 1988). The deviant validity measures can emerge from the instability of the construct. As this is a mixture between explanatory and deductive research, constructs with two items are included. As the model fit was excellent the moderate validity measures are still included. All values are depicted in table 11.

Table 11. Validity Measures

Constructs	CR	AVE
ATT	.786	.500
KN	.708	.549
PBC	.734	.487
GPI	.743	.592
GPB	.722	.464
SN	.663	.422
MF	.991	.985
PD	.663	.402
COL	.665	.404
UA	.589	.436

Another important part of the overall model is that the data was measured cross-nationally. To assess whether the framework established in one country applies to other countries is an essential step in establishing generalizability. Hence, measurement invariance can be tested, it indicates that the same framework is being measured across countries (Steenkamp & Baumgartner, 1998). However, the questionnaire was identical in both countries, therefore the requirement for configural invariance is given.

In addition, the researcher conducted configural and metric invariance tests, as the structural model is moderated by the categorical variable country. Configural invariance tests examine whether the factor structure of the CFA achieves adequate fit when both groups are tested together and unconstrained. The term unconstrained means that the model is tested without any cross-groups path constraints. The model fit for the unconstrained model in a multi-group analysis proposed an acceptable fit ($\chi 2/df = 1.329$, CFI = .880, SRMR = .904, RMSEA = .043). Moreover, the model showed in both groups, Finland and Germany, that the factor loadings were significantly different from zero. Hence, a configural invariance can be assumed, the same general specifics hold across the groups Finland and Germany.

Metric invariance was achieved as evidenced by a non-significant chi-square difference test (p-value > .05) between the unconstrained metric invariance model ($\chi 2 = 572.453$, df = 483) and fully constrained metric invariance model ($\chi 2 = 606.1$, df = 458) where the regression weights were constrained. Thus, the measurement model meets the criteria for metric invariance as well. The last measure to test whether measurement invariance can be assumed is to validate scalar invariance.

Scalar invariance was only partially met due to the need to unconstrain all item intercepts for power distance. The non-significant chi-square difference test (p-value > .05) for the partially scalar invariance model ($\chi 2 = 62.334$, df = 46) showed that a multi-group comparison between Finland and Germany is possible. However, the researcher is still

able to make claims about the model but findings from the multigroup comparison for power distance should be cautiously interpreted.

4.6 Findings

A structural equation model was used to test the predicted model of green consumer behaviour. The set of analyses was conducted with the tool AMOS 26.0. As mentioned previously the model fit is acceptable, that does not change significantly in the final model ($\chi 2/df = 1.560$, CFI = .836, SRMR = .078, RMSEA = .057). An examination of the parameter estimates, significance levels and hypotheses testing are elaborated in table 12 and figure 3.

Table 12. Parameter estimates of the structural equation model with unstandardized regression weights and standardized regression weights* (Estimate/Estimate*)

Constructs			Estimate	S.E.	C.R.	P	Estimate*
GPI	<---	PD	-.011	.074	-.148	.882	-.014
GPI	<---	COL	.032	.072	.445	.656	.039
GPI	**<---**	**ATT**	.212	.106	2.002	.045	.215
GPI	**<---**	**KN**	.639	.165	3.878	***	.649
GPI	<---	PBC	.146	.139	1.057	.291	.109
GPI	<---	SN	.098	.136	.723	.470	.066
GPI	<---	MF	.057	.062	.920	.357	.048
GPI	<---	UA	.060	.132	.455	.649	.040
GPB	**<---**	**GPI**	.996	.148	6.711	***	.824
GPB	<---	Age	.001	.044	.012	.990	.001
GPB	<---	Gender	-.061	.087	-.705	.481	-.047
GPB	**<---**	**Income**	-.054	.020	-2.660	.008	-.182

Analysing causal effects requires the investigating of the parameter estimates. Interesting is whether the prefix of those and the size account as a proof for the formulated

hypotheses. The good explanatory power in predicting consumer green purchase intention R^2 = 79.5 % advocates for the inclusion of new constructs such as knowledge. Over R^2 = 71.5 % of the variance of green consumer behaviour could be explained by the assigned construct green purchase intention.

Examining the prefixes of the significant path coefficients, it becomes evident that all coefficients correspond with the presumed direction of the cause. As depicted in table 12 the standard error (S.E.) ranges from .02 to 1.65. The critical ratio values (C.R.) can be interpreted in relation to the p-values. The researcher can examine that all C.R. values for the significant paths are above 1.96. Therefore, these path coefficients are highly significant and different from zero.

The unstandardized regression coefficients signify the amount of change in the dependent or mediating variable for each one-unit change in the variable predicting it (Weiber & Mühlhaus, 2014). An interesting finding is that positive attitude towards green products (.212) leads to an increase in the green purchase intention. The same finding can be applied to the positive influence of knowledge (.639). In addition, green purchase intention (.824) has a significant positive influence on green purchase behaviour as shown in figure 3 and table 12.

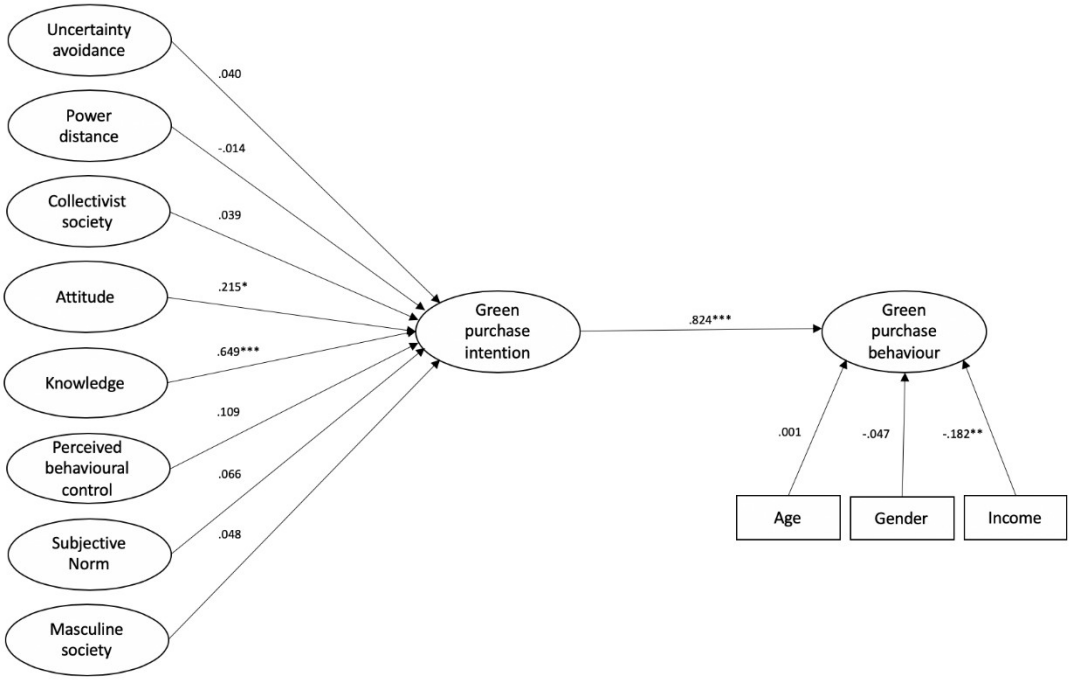

Figure 3. Result of Structural model for Multi-group model with standardized regression weights and significance of Correlations (* p < .050, ** p < .010, *** p < .001)

The researcher included the standardized regression weights to follow the recommendation of Chin (1998), to assess the substantial path coefficients. Path coefficients above .2 are observed as meaningful. The standardized estimate from attitude to green purchase intention is .215 and meaningful. However, compared with the standardized estimates from knowledge to green purchase intention (.649) and green purchase intention to green purchase behaviour (.824) rather low. The control variable is not included in this observation. As a conclusion, the researcher examines that the observed relationships of the empirical examination do not justify the theoretical model in all aspects. Despite, the strong relationship of green purchase intention on green purchase behaviour which was also theoretically supposed. Furthermore, if a consumer has more knowledge about green products the intention to buy green products is higher.

In figure 3 all results of the structural equation model are displayed, to increase the understanding of the drivers of green purchase behaviour the control variables were included. The descriptive measures gender, income and age could affect green consumer

behaviour. In order to account for these other potentially confounding variables, the researcher includes them as control variables (Weiber & Mühlhaus, 2014). Surprisingly, only income had a negative influence on green consumer behaviour ($p < .05$). Meaning that the higher the annual income is the lower is the green consumer behaviour. An overview of all hypotheses and the findings of the structural model is depicted in table 13.

Table 13. Significance levels of hypotheses and test results

		Significance Level	**Test results**
H1	Attitude has a positive influence on green purchase intention.	< 0.001	supported
H2	Knowledge about green products positively impacts green purchase intention.	.045	supported
H3	Subjective norms have a positive impact on green purchase intention.	.470	rejected
H4	Perceived behavioural control significantly impacts the green purchase intention positively.	.291	rejected
H5a	The higher the masculine dimension compared to feminine society the more negative is the impact on the green purchase intention.	.357	rejected
H5b	The higher the power distance in a country the higher is the positive influence on the green purchase intention.	.882	rejected
H5c	A negative influence on green purchase intention can be examined if a country tends to have more individualistic characteristics.	.656	rejected
H5d	A high score of uncertainty avoidance has a positive influence on green purchase behaviour.	.649	rejected
H5e	Long term orientation has a negative influence on green purchase intention	Not included.	
H6	Consumer's green purchase intention is positively related to green purchase intention.	< .001	supported

As presented in table 13, 3 out of 10 hypotheses can be supported. The structural equation model suggests that attitude has a significant positive effect on green purchase intention ($p < .05$), thus H1 can be supported. Also, knowledge of green products has a

significant positive effect on green purchase intention, leading to support H2 as well ($p < .05$). On the contrary, subjective norms and perceived behavioural control does not seem to have a significant positive effect on green purchase intention ($p > .05$), and thus H3 and H4 are rejected. Moreover, all cultural constructs do not have a significant positive effect on green purchase intention ($p > .05$), making H5a to H5e rejected. Then again, green purchase intention has a significant positive effect on green purchase behaviour ($p < .05$), and hence H7 is supported.

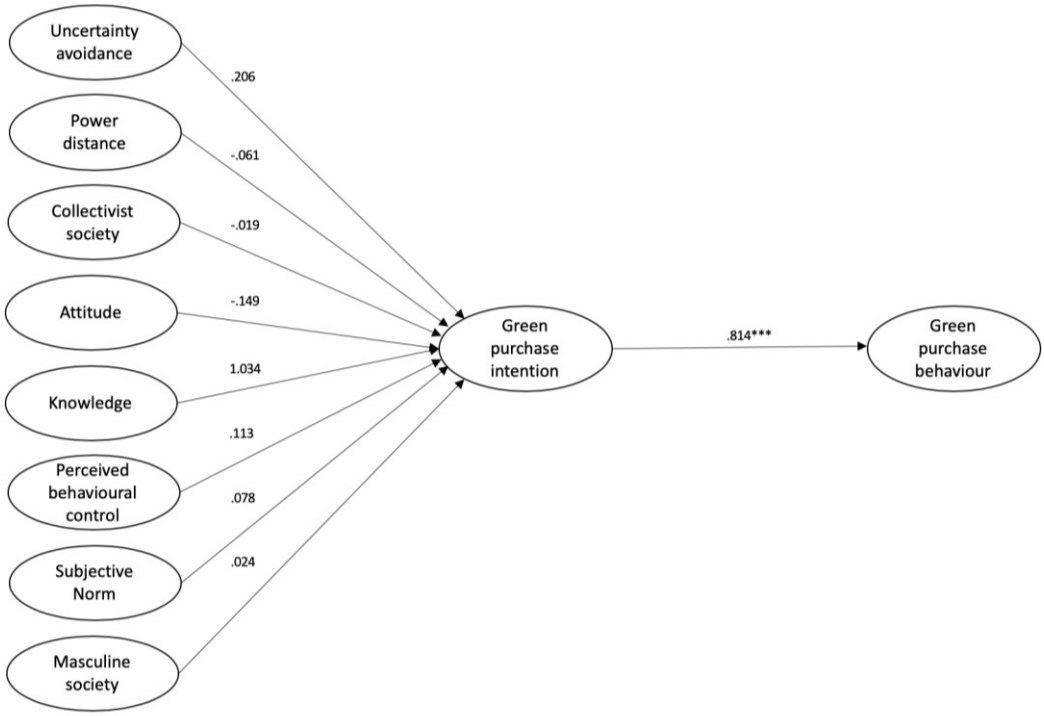

Figure 4. Result of Structural model for Germany with standardized regression weights and significance of Correlations (* $p < .050$, ** $p < .010$, *** $p < .001$)

In figure 4, the significance levels and standardized regression weights to each hypothesis for Germany are presented. Interestingly, it can be noticed that the constructs of the theory of planned behaviour, as well as the cultural constructs, have no significant influence on green purchase intention. However, the influence of green purchase intention has a very strong positive effect (.935) and is significantly impacting ($p < .05$) green con-

sumer behaviour. Furthermore, the standardized regression weight of the path coefficient between green purchase intention and green purchase behaviour is above the suggested threshold of .2 (Chin, 1998). This is also presented in appendix 3 table 18 with the parameter estimates, the standardized estimate is .814 The researcher assumes that the low sample size is strongly affecting the significance levels explaining the difference to the general results. For the German sample this means that if the green purchase intention is high the green buying behaviour is high as well.

The explanatory power in predicting the green purchase intention of a consumer (R^2 = 67 %) is still good. Further, it is important to mention that the squared multiple correlations of green purchase intention is R^2 = 91.3 %. As this variable shows the variance explained by the predictor, it means that 91.3 % of the variance of green purchase intention can be explained by the assigned constructs.

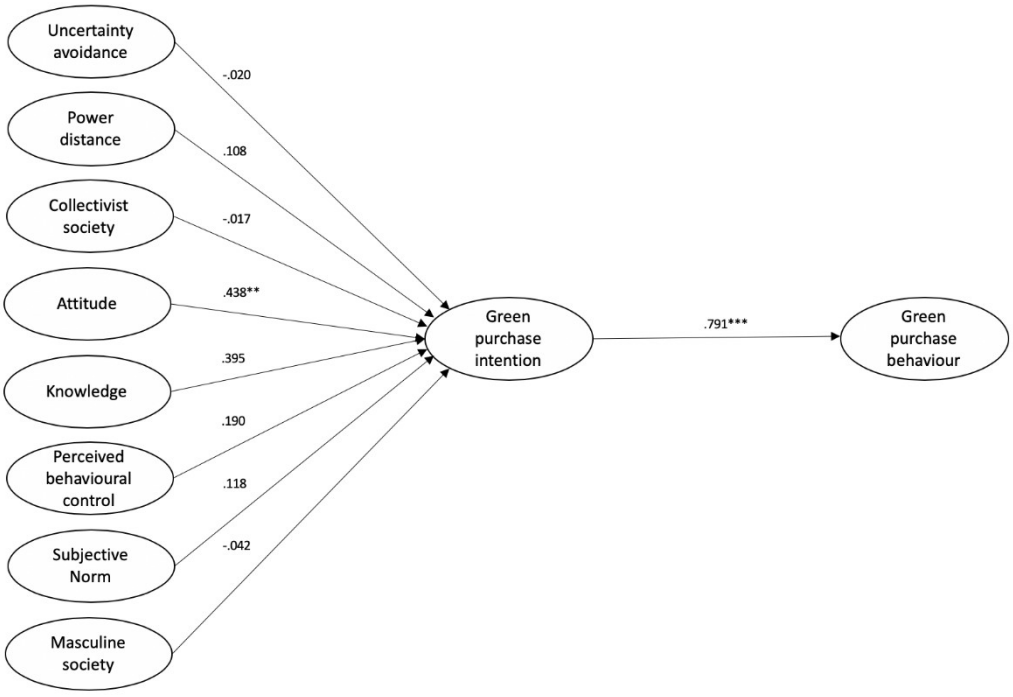

Figure 5. Result of Structural model for Finland with standardized regression weights and significance of Correlations (* p < .050, ** p < .010, *** p < .001)

Interesting findings can be examined while analysing the result of the structural model equation for Finland. The larger sample size might impact the findings as more hypotheses can be accepted. The first hypothesis can be accepted as attitude displays a significant positive effect on green purchase intention ($p < .05$). All interesting parameter estimates are presented in appendix 4 table 19. Further, this effect can be seen as significant as the standardized regression weight is .438. Moreover, green purchase intention has a significant positive effect on green purchase behaviour ($p < .05$). The standardized regression weight is .791 and therefore is the path coefficient strongly meaningful (Chin, 1998).

The overall explained variance of green purchase behaviour is lower in the Finland sample as the R^2 is 65.7 %, compared to the German sample. The same finding can be examined for the explained variance of green purchase intention by the other constructs as the squared multiple correlations is 78.8 %.

4.7 Additional findings – the actuality of Hofstede dimensions

In chapter 2.3.6 the researcher describes the scores and dimensions by Hofstede, in this chapter new tendencies will be examined. Therefore, the results of the questionnaire will be used. All constructs will be analysed, and the mean value will show the tendency of the dimension in the corresponding country. As already mentioned, this slight outlook is not generalisable to the whole population as the data collected uses a different questionnaire and has age and country restrictions. However, tendencies can be examined and might show if the results changed over time, these are displayed in table 14.

Table 14. Tendencies of Hofstede dimensions

Tested dimension:	**Finland**		**Germany**	
	Tendencies*	Results	Tendencies*	Results
Masculine society	Disagree/neutral (2.46)	Between Feminine and Masculine society	Disagree (2.29)	Feminine society
High Power distance (PDI)	Disagree (1.73)	Low PDI	Disagree (1.95)	Low PDI
Collectivism	Neutral (3.11)	Individualist society	Neutral (3.25)	Individualist society
High Uncertainty avoidance (UAI)	Agree (3.79)	High UAI	Agree (3.58)	High UAI
Long term orientation (LTO)	Agree (3.63)	Long term orientation	Neutral (3.40)	Between long- and short-term orientation

*Tendencies describe the direction on the Likert scale, the average mean of all responses is provided in brackets.

The tendencies in the German sample are quite similar compared to the original scores in table 6. In the first dimension, more “feminine” tendencies were identified, the average mean on the Likert scale was 2.29, the questions in the questionnaire asked supported a masculine society. This is the first difference in comparison, the younger people might identify more with values supporting care and high standards of living for everyone. The tendencies were calculated with all responses summed up per respondent divided by the number of questions per construct. Then the results were summed up and divided by the sample size.

The second difference can be detected while examining the tendency in the collectivist or individualist country. Hofstede constituted Germany as an individualist society, in this

research the sample population choose a more neutral approach. In the questionnaire questions supporting the collectivist culture were asked, hence a small average mean shows that the respondents were not sure whether the belongings of the group or the individual count. As a result, an unambiguous assignment to a more individual or collective society is not possible. In addition, a change in the last tested dimension long-term orientation can be observed. The tendency shows that the respondents tend to “agree” that long-term orientation is important, hence in this comparison, the German sample is more normative appointed rather than pragmatic.

The Finnish sample projects the same attitudes as the German population towards the statements regarding the dimensions. The attitudes of the younger people seem to be more neutral as more values rate around “neutral”, which has the value three on the Likert-scale. In addition, it can be detected that the scores by Hofstede examined in 1967 and 1973 have the same tendencies compared to the results showed in table 6. The Finnish sample responded to all dimensions similarly and decided often that the neutral statement depicts best their opinion.

5 SUMMARY AND CONCLUSIONS

This study explores the examination of green purchase intention and the underlying drivers for green purchase behaviour, in a European context, focusing on generation Y and Z. The previous literature has presented several frameworks about green purchase behaviour, but few studies determined the impact of culture and the attitudes of a younger generation. The current research has undergone an exhaustive examination of factors affecting green purchase intention and in turn green purchase behaviour, also in an international context.

This research has used TPB and further attempted to include important concepts such as knowledge and Hofstede's cultural dimensions in the TPB model for understanding consumer behaviour towards green products. Two predictor constructs substantially influenced the consumer's intention to buy a sustainable product which in turn affects their purchase behaviour. The finding that attitude influences green purchase intention supports the earlier research of various researchers such as Han et al. (2009), Liobikienė, et al. (2016) and Yadav & Pathak (2017). Interestingly, when tested the model separately for the Finland sample a significant positive effect on attitude can be stated. The opposite results were accessed when only the German sample was tested. As structural equation modeling is very sensitive to sample size this could be a major influence factor for this result (Anderson, 2003). This issue will be further discussed in the following chapter 5.3.

Furthermore, this study confirms that if a consumer has more knowledge about green products the intention to buy green products is higher. As a result, the finding of Bang et al. (2000) approved that consumers with more knowledge about green products, and the consequences of this product for the environment, as well as the advantages of a green product, may have more positive attitudes towards green products. Hence the green purchase intention is positively influenced.

Lastly, the influence of green purchase intention on green purchase behaviour was determined. Confirming the same findings of various researchers (Wei et al. (2017), Chan (2001), Kinnear et al. (1974)) a positive attitude towards green products results in a green purchase intention which in turn impact the green consumer behaviour positively. Additionally, it can be examined that when the model is tested for each country both countries showed a significant positive influence of green purchase intention on the green buying behaviour.

Unlike some prior studies, not all TPB predictor constructs showed a significant influence on green purchase intention. Subjective norms and perceived behavioural control had no significant influence on the green purchase intention. This contradicts the findings of other researchers such as Liobikienė et al. (2016), Yadav & Pathak (2017), Ma et al. (2012) and Kang et al. (2013). As a majority of the green purchase intention studies has been done with specified products or samples (based on nationality or gender), it is interesting to see, that in Germany and Finland the results differ and thus the impact of subjective norms and perceived behavioural control may not be as extensive as in other countries.

Moreover, referring to the collected data, the findings showed that all cultural dimensions did not have a significant influence on the green purchase intention in the sample, confirming the finding of Liobikienė et al. (2016). However, interesting new outlooks can be determined when comparing the tendencies resulting from this questionnaire and the original Hofstede questionnaire. In general, it can be formulated that most younger people seem to be more neutral as many values rate around “neutral”. However, for the German sample, it can be determined that younger people might support the values of a feminine society more. In addition, the sample population chooses a more neutral approach when evaluating the statements about a collectivistic society defined by Hofstede et al. (2010).

All in all, it can be pointed out that the in the beginning raised question, “Is green the new black?” cannot be definitely answered. A huge interest about green products in the

generation Y and Z exist. The study found support for a central tenet of the theory of planned behaviour in that positive attitudes and knowledge about green products were positively related to the green purchase intention. This shows partly the applicability of TPB variables in determining the consumers' intention and behaviour towards green products, more considerations will be given in the following chapters.

5.1 Theoretical contributions

The results of this study provide potentially valuable comprehensions for academic researchers and managers of green markets to formulate green marketing strategies. Further, this study sets out to examine if personal or cultural factors influence green purchase intention. It opens an innovative path to enhance the general understanding of green consumer behaviour and targets the next generation of main consumers of green products. First, when analysing the findings of the general structural equation model, it becomes evident that a positive attitude leads to an increase in the green purchase intention. The target group were consumers from the generation Y and Z from Finland and Germany. These consumers are highly educated and digital natives, consequently the access to information about certain products is fast (Francis & Hoefel, 2018).

A positive attitude towards green products is driven by the thought of how a green product could make an impact. In this study, it becomes apparent that the young consumers believe that they could make an impact on their product choice. This contributes to the study of Han et al. (2010), findings are presented showing that an increasing number of people is aware of the ecological problems. It resulted in a raise of sustainable behaviour like upcycling or recycling. The findings reported here shed new light on how attitude impacts green purchase behaviour and shows that green consumer behaviour is trending hence most young consumers have a positive attitude.

Second, another important finding is that knowledge has a stronger influence than attitude on the green purchase intention. This result contradicts the findings of Peattie

(2001), arguing that even if a consumer is aware of environmental problems caused by a certain product or brand not necessarily translates in green purchase behaviour. Despite the previous assumption, Bang et al. (2000) examined that consumer with a higher level of knowledge and the associated problems of the environment perceive green products as more beneficial. The relevance of knowledge is supported by the current findings. Furthermore, a relationship to the young consumer sample can be drawn. As consumers from the generation Y and Z are digital natives, they are grown up with a certain sense of demanding transparency of companies, brands or products. In this study, the strong positive impact of influence on the green purchase intention can result from the know-how of using the web to obtain knowledge and share it through social media. Furthermore, most people have a master's degree and are therefore highly educated. This could be another explanation for the high influence of knowledge on green purchase intention in this sample.

Third, this study has identified that green purchase intention has a significant positive influence on green purchase behaviour. Confirming the theory of planned behaviour by Ajzen (1991). The findings suggest that the translation of green purchase intention into corresponding behaviour is rather effectively. This can partly be explained by the increasing range of green products. Another explanation can be provided by the strong influence of attitude on green consumer behaviour. An individual to contribute to environmentally friendly behaviour is more likely to have a positive attitude towards green products, which will result in a green purchase intention (Wei et al., 2017) and this in turn results in a positive impact on the green purchase behaviour.

Fourth, this study revealed that income had a negative influence on green consumer behaviour. This finding is contradicting the implications of Liobikienė et al. (2016) hence the income level is found to be no factor determining green purchase behaviour. Nevertheless, previous research stated that socio-demographic variables are poor predictors of green consumption (Diamantopoulos et al., 2003), but approved for acting as control variables. Therefore in this study, this variable was included. However, Minton

and Rose (1997) proposed that green purchase decisions are, to some extent, determined by higher income. In this study the sample size consists of humans from generation Y and Z, thus nearly 40 % reported an income under 19 999 €. The negative effect of a high income on green purchase behaviour could result from various constraints of people with higher income. One point could be the time constraint due to a high amount of working hours the choice of products has to happen quickly and no extensive information search about this product could be made.

This approach will prove useful in expanding our understanding of how personal factors impact green purchase intention.

5.2 Managerial contributions

The discoveries of this study added knowledge and increased the understanding for marketers about the consumers' intention to purchase green products in the Finnish and German context. The results suggest that marketers and policymakers should focus on the consumers' attitude as it plays a significant role in impacting the green purchase intention and in turn influences the consumer behaviour. Green consumer behaviour should be a focus of policymakers because it supports a mindset focusing on sustainability and preserving the environment. This, in turn, reduces the costs the policymakers and governments have to pay to sustain nature. Therefore, focusing on the attitude towards green products can be augmented by creating awareness in the communities. Continued efforts in doing so can produce a favourable image among the people.

The challenge now is that a positive image of buying green among people has to be created to change the attitude (Schiffman et al., 2010). A reasonable approach to tackle this issue by marketers or policymakers could be to inform the consumers in which ways the green products save and preserve the environment. Furthermore, in this study knowledge had a significant influence on green purchase intention. As knowledge is partly formed by information, proper communication about the benefits of the green

product can enhance green consumption. This information can be used to increase green consumption by using the findings of the appropriate drivers of green consumer behaviour to increase the consumption of green products. Appropriate communication about the advantages of buying green among the buyers should be the primary concern for marketers, as communication is contemplated as an substantial tool for the success of companies selling any green products (Picket et al., 1995).

In general, it is of supreme importance for producers, marketers, and policymakers to enhance the ways of promoting consumer habits that are less harmful to the environment. As the findings of this study suggest that the green purchase intention influences the green consumer behaviour, this green purchase intention should be targeted through addressing the drivers by using the right marketing channels. Consumers from the generation Y and Z are digital natives, therefore, a spacious internet presence should be pursued. Social media could be an effective channel. Furthermore, aiming at the overall goal to establish a strong and reliable brand, marketers can increase the probability to reach that aim by offering green products and creating an engaged community through the use of providing essential information (Olsen, et al., 2014).

Despite its exploratory and deductive nature, this study offers some insight into the significance of understanding the drivers of green purchase intentions. However, the managerial implications can only be provided on a superficial level as the theoretical construct needs to be validated and explored further. These findings contribute in several ways to our understanding of how personal and cultural factors influence green purchase decisions made by consumers of the generation Y and Z and provide a basis for extensive future research.

5.3 Limitations and future research suggestions

Although this research enhances the knowledge in the field of green purchase behaviour by presenting a theoretical framework of its possible drivers, the author acknowledges

some limitations of the results. To begin with, a geographical limitation as the measurements were only applied in Germany and Finland. Hence, a generalization of the conclusions is not admissible. General conclusions about green consumer behaviour across Europe must be verified in further research.

Further, this study takes a quantitative deductive approach to contribute to theory. One strength of this strategy lies in explaining the characteristics of consumer behaviour. However, to answer the research question comprehensively a large data sample is needed. In total 263 respondents answered the questionnaire, from which 176 responses were used. This number depicts a moderate amount of numbers, however, an application to the total population of people from Finland or Germany cannot be applied. The age restriction impacts the generalizability as well. Hence, only a section of the views and attitudes of society was considered. A random sampling approach among the population could provide more definitive evidence and could enable the researchers to achieve generalizable results of consumer's green purchase behaviour.

Furthermore, all applicants were surveyed with the same measurement tool, as a result, a common method of bias can occur. This means that contortion of the effect and correlation relationship between the constructs could have taken place (Podsakoff & Organ, 1986). Another issue is that convergent validity is impacted because of the single instrument usage. However, this point can be partly invalidated because the AVE value also measures the above-mentioned validity. Another point is that this study measured all constructs using one survey at a single point in time. A longitudinal study could enhance the knowledge about this form of consumer behaviour as changes and reasons for these could be analysed.

Another point is that this study used controversial discussed theories like the Hofstede dimensions or the theory of planned behaviour. However, the applicability was explained in chapter 2. Addressed should be that self-reported behaviour was used to measure

consumers green purchase behaviour, instead of actual behaviour. The majority of researchers use this method as it is cost and time-saving. In addition, it could enable the researcher to observe behaviours that may not otherwise be investigable. Some researchers argue that self-reports are only weakly associated with actual behaviour (Peterson & Kerin, 1981).

In the future researchers may decide to study the actual behaviour instead of self-reported behaviour. As a result, new and interesting findings can be generated and the behaviour can be compared. Further, in this study green products were examined in general, whereas previous studies found out that the behavioural intention differs across products or services such as organic food, sustainable energy sources or hotels. This reduces the generalization of the findings. The changing behavioural intention across various green product ranges is an intriguing issue which could be usefully explored in further research by comparing consumer intention and behaviours towards different green products.

Considerably more work will need to be done to determine the gap between the intention and the actual behaviour. Johnstone and Tan (2015) contend that consumers only pretend to perform green buying behaviour, describing a gap between the intention and the actual behaviour. A greater focus on this gap could produce interesting findings that account more for various aspects of the influence factors of green consumer behaviour. Further research might explore the influence factors of green purchase behaviour by including variables like confidence in green products or price sensitivity etc. to generate results about the gap.

This research has thrown up many questions in need of further investigation. Further research could usefully explore how certain contexts influence the purchase decision. Social experiments could be adequate to determine whether communities or policy scenarios across a range of various socio-economic or country-specific locations exert a cer-

tain impact. The findings of this study have some important implications for future studies as the dynamics of green consumer behaviour will lead to ongoing progress of the green evolution across the totality of consumption culture.

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Appendix 1. Questionnaire and Sources

Welcome to this survey, I appreciate it a lot that you take the time to answer these questions.

I am currently writing my master thesis and study Business Administration in Vaasa and Frankfurt (Oder). I will research green purchase behaviour in a cross-country comparison study.

The questionnaire includes demographic questions, and questions about your attitude towards green products and culture-related statements. The survey consists of three parts and takes approx. 5 minutes to be completed.
The participation in this survey is anonym. Please answer all the questions based on your personal opinion.

Thank you for taking the time to complete this survey. This will be a great help in order to find interesting insights for my master thesis.

Demographics

1. Which gender do you identify yourself with?

- Female
- Male
- Other
- Prefer not to say

2. How old are you?

1. 18-25 years
2. 26-35 years

3. What is the highest level of education you have completed?

- Preliminary school
- High school
- Secondary school-leaving certificate/Junior High Diploma
- Bachelor´s degree (e.g. BA, BSc)
- Master´s degree (e.g. MA, MSc)
- Professional degree (e.g.MD, DDS)
- Doctorate (e.g. PhD, EdD)
- Other

4. What is your yearly household income?

- under 19 999€
- 20 000 – 34 999€
- 35 000 – 49 999€
- 50 000 – 74 999€
- 75 000 – 99 999€
- 100 000€ or over
- Prefer not to say

5. Which country are you currently living in?

- Germany
- Finland
- Greece
- France

Now questions about your attitude towards green products and culture-related statements will follow. Please rate yourself on a scale: 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree) or 5 (strongly agree).

For your information, the term green product refers to environmentally friendly products, which are locally produced, support fairtrade and have less packaging.

*the following table is adapted to make the question items and constructs better understandable; in the original survey no construct names were mentioned

Original Survey	**Tested Construct**
To what extent do you agree with the following statements about green products? 1. I like green products. - Strongly disagree *** strongly agree 2. I feel positive toward green products. - Strongly disagree *** strongly agree 3. Green products are good for the environment. - Strongly disagree *** strongly agree 4. I feel proud when I buy/use green products. - Strongly disagree *** strongly agree	Attitude

Please indicate to what extent you agree to the following statements about green consumption. 1. I am familiar with green products. - Strongly disagree *** strongly agree 2. I inform myself about green products and brands. - Strongly disagree *** strongly agree 3. More energy is used for producing and transporting food products than the body receives through nutrition. - Strongly disagree *** strongly agree 4. Less energy is used for meat production than for the equivalent amount of vegetables. - Strongly disagree *** strongly agree	Knowledge
Please express your opinion towards the following statements. 1. Most of the people who are important to me, would support me if I bought green products. - Strongly disagree *** strongly agree 2. Most of the people who are important to me think that I should buy only green products. - Strongly disagree *** strongly agree 3. People whose opinions I value would prefer that I buy green products instead of conventional products. - Strongly disagree *** strongly agree	Subjective Norm
How is your experience with consuming green products? 1. I have time to purchase green products. - Strongly disagree *** strongly agree 2. I have resources to buy a green product. - Strongly disagree *** strongly agree 3. If it is entirely up to me, I am confident that I will purchase green products. - Strongly disagree *** strongly agree 4. I am confident that if I want to, I can pay for an environmentally friendly product.	Perceived behavioural control

- Strongly disagree *** strongly agree	
Please indicate how much you agree to the statements about your purchase behaviour. 1. I make a special effort to buy products in biodegradable packages. - Strongly disagree *** strongly agree 2. I would switch from my usual brands and buy environmentally safe products, even if I had to give up some effectiveness. (e.g. it takes more time to buy the product) - Strongly disagree *** strongly agree 3. I have switched products for ecological reasons. - Strongly disagree *** strongly agree 4. When I have a choice between two equal products, I purchase the one less harmful to the environment. - Strongly disagree *** strongly agree	Green purchase behaviour

Do you agree to the following statements about the purchase of green products? 1. I consider buying green products because they are less polluting. - Strongly disagree *** strongly agree 2. I consider switching to environmentally friendly brands for ecological reasons. - Strongly disagree *** strongly agree 3. I expect to purchase green products in the future because of its positive environmental contribution. - Strongly disagree *** strongly agree 4. I definitely want to purchase green products in the near future. - Strongly disagree *** strongly agree	Green purchase intention
Please assess to which degree you agree with the following claims. 1. It is very important for me to have chances for promotion. - Strongly disagree *** strongly agree 2. It is very relevant for me to get recognition for good performance. - Strongly disagree *** strongly agree 3. Doing a service for my friend is very valuable for me. - Strongly disagree *** strongly agree 4. I want to have sufficient time for my personal or home life. - Strongly disagree *** strongly agree	Masculinity – Femininity Dimension

Please indicate how much you agree with the following culture-related statements. 1. People in higher positions should make most decisions without consulting people in lower positions. - Strongly disagree *** strongly agree 2. People in higher positions should avoid social interaction with people in lower positions. - Strongly disagree *** strongly agree 3. People in lower positions should not disagree with decisions by people in higher positions. - Strongly disagree *** strongly agree 4. People in higher positions should not delegate important tasks to people in lower positions. - Strongly disagree *** strongly agree	Power distance
Do you agree with these culture-related statements? 1. Individuals should sacrifice self-interest for the group. - Strongly disagree *** strongly agree 2. Group welfare is more important than individual rewards and success. - Strongly disagree *** strongly agree 3. Individuals should only pursue their goals after considering the welfare of the group. - Strongly disagree *** strongly agree 4. Individuals should stick with the group even through difficul-ties. - Strongly disagree *** strongly agree * the term group refers to the society and communities	Collectivist society

To what extent do you agree with the following statements? 1. It is important to closely follow instructions and procedures. - Strongly disagree *** strongly agree 2. Rules and regulations are important because they inform me of what is expected of me. - Strongly disagree *** strongly agree 3. Standardized work procedures are helpful. - Strongly disagree *** strongly agree 4. Instructions for operations are important. - Strongly disagree *** strongly agree	High uncertainty Avoidance
Please indicate how much you agree with the following culture-related statements. 1. I work hard for success in the future. - Strongly disagree *** strongly agree 2. I value a strong link to my past. - Strongly disagree *** strongly agree 3. I don't mind giving up today's fun for success in the future. - Strongly disagree *** strongly agree 4. I plan for the long term. - Strongly disagree *** strongly agree	Long-term orientation
Thank you for completing this questionnaire! I would like to thank you very much for helping me, next time you need someone for filling out your survey contact me. Your answers were transmitted, you may close the browser window or tab now. Have a great day!	

Table 15. Overview of Constructs and Sources

	Factor	Nr. Of Questions	Source
Personal factors – theory of planned behaviour	Attitude (ATT)	4	Chang (2011)
	Knowledge (KN)	2	Bang et al. (2000)
		2	Tanner & Wölfing Kast (2003)
	Subjective Norm (SN)	3	Kim and Han (2010); Soyez (2012)
	perceived behavioural control (PBC)	4	Kim and Han (2010)
	green purchase intention (GPI)	4	Paul et al. (2016)
	green purchase behaviour (GPB)	4	Shrum et al. (1995)
Cultural factors – Hofstede's dimensions	Masculinity versus femininity (MF), Power distance (PD), Individualism versus collectivism (COL), Uncertainty Avoidance (UA), Long-term orientation (LTO),	20	Hofstede & Minkov (2013); Hofstede et al. (2010)

Appendix 2. Exploratory Factor Analysis

Table 16. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.795
Bartlett's Test of Sphericity	Approx. Chi-Square	2097.384
	df	435
	Sig.	.000

Table 17. Communalities

Constructs	Initial	Extraction
ATT_01	.702	.819
ATT_02	.724	.701
KN_01	.482	.484
KN_02	.562	.596
SN_01	.337	.263
SN_02	.371	.380
SN_03	.482	.909
PBC_01	.402	.340
PBC_03	.545	.474
PBC_04	.550	.901
GPI_01	.624	.686
GPI_02	.657	.675
GPI_03	.651	.661
GPI_04	.680	.697
GPB_01	.481	.491
GPB_02	.464	.426
GPB_03	.497	.580
MF_01	.510	.799
MF_02	.549	.623
PD_01	.325	.327
PD_02	.433	.524
PD_03	.369	.459
PD_04	.357	.419
COL_01	.552	.669
COL_02	.510	.590
COL_03	.416	.442
COL_04	.329	.336
UA_01	.418	.604
UA_02	.299	.321
UA_03	.379	.470

Appendix 3. Parameter estimates of the structural equation model with the sample Germany

Table 18. Estimates of the structural equation model for Germany with unstandardized regression weights and standardized regression weights* (Estimate/Estimate*)

Constructs			Estimate	S.E.	C.R.	P	Estimate*
GPI	<---	PD	-.035	.088	-.394	.693	-.061
GPI	<---	COL	-.014	.108	-.127	.899	-.019
GPI	<---	ATT	-.129	.197	-.654	.513	-.149
GPI	<---	KN	.778	.301	2.580	.01	1.034
GPI	<---	PBC	.132	.2	.66	.509	.113
GPI	<---	SN	.097	.216	.45	.653	.078
GPI	<---	MF	.045	.075	.595	.552	.024
GPI	<---	UA	.314	.246	1.279	.201	.206
GPB	<---	GPI	.953	.246	3.876	***	.814

Appendix 4. Parameter estimates of the structural equation model with the sample Finland

Table 19. Estimates of the structural equation model for Finland with unstandardized regression weights and standardized regression weights* (Esti-mate/Estimate*)

Constructs			Estimate	S.E.	C.R.	P	Estimate*
GPI	<---	PD	.127	.159	.797	.425	.108
GPI	<---	COL	-.010	.040	-.249	.803	-.017
GPI	<---	ATT	.479	.151	3.177	.001	.438
GPI	<---	KN	.492	.205	2.400	.016	.395
GPI	<---	PBC	.260	.198	1.312	.190	.19
GPI	<---	SN	.203	.190	1.071	.284	.118
GPI	<---	MF	-.033	.097	-.342	.732	-.042
GPI	<---	UA	-.238	.162	-1.472	.141	-.02
GPB	<---	GPI	.933	.169	5.522	***	.791