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Green Search Engine Usage

A Qualitative Study Exploring Why German Millennials Use the Green Search Engine Ecosia

by

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May 2021

Master Programme in International Marketing and Brand Management

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Abstract

Title: Green Search Engine Usage; A Qualitative Study Exploring Why German Millennials Use the Green Search Engine Ecosia

Seminar Date: 04/06/2021

Course: BUSN39 - Degree Project in Global Marketing

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Keywords: Green Search Engine Usage, Ecosia, Pro-Environmental Behaviour, Green Consumerism, Digital Green Consumerism

Aim: The aim of this study is to explore why German millennials use the green search engine Ecosia, as the organisation is experiencing considerable growth in Germany.

Theoretical Perspectives: This thesis adopts well-established theories such as the Theory of Planned Behaviour, the Value-Belief-Norm Theory, and the Social Influence Theory. Moreover, the theoretical perspective consists of the Multi-Level Factor Model of Green Consumerism and Green Nudges intending to understand German millennials' reasons for using the green search engine Ecosia from multiple angles.

Methodology: This study applies a qualitative research design using the green search engine Ecosia as a suitable example and their users as embedded units. The study follows an abductive research approach. The data was collected in April 2021 through 12 semi-structured interviews. The interviews were conducted in German, translated and transcribed in English. The empirical data was thematically analysed, following a six-step process.

Conclusion: Our study reveals six reasons for using the green search engine Ecosia from the viewpoint of German millennials, which are endogenous, exogenous and structural in nature. The reasons are (1) perceived behavioural ease, (2) a green lifestyle, (3) positive behavioural beliefs, (4) social influence - internalisation, (5) positive perception about the organisation, and (6) Ecosia's tree-counter.

Acknowledgements

We would like to thank our families and friends for all the support, encouragement and love which kept us going until we have reached the finish line. We like to express our deepest gratitude to Lund University School of Economics and Management for the excellent education conveyed and our interviewees, who made this study possible. Moreover, we would sincerely like to thank our supervisor, Ekaterini Drosou, and our examiner, Tommy Shih.

While there is an expected level of difficulties inherent with writing a master thesis, we had the additional challenge of the Covid-19 pandemic to contend with. The entire research process was conducted virtually. Hence, we would like to thank each other for the productive collaboration, patience and stamina, which guided the creation of this master thesis. To the last day this research project was filled with sweat and joy.

We like to conclude this chapter of our lives with the words by Michael Foucault

"The main interest in life and work is to become someone else that you were not in the beginning".

Best wishes,

Lea Zehendner

Michelle Cron

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1 Introduction

The introduction chapter provides background information on the emergence of green search engines and introduces the organisation Ecosia. We further discuss the research aim, the problematisation, and intended contributions from a theoretical and empirical angle. Moreover, the research question is formulated. The chapter concludes with a thesis overview.

1.1 Background

We live in an increasingly digital world. The intrusion of technology and digitalisation into human life is ubiquitous. The global digital population comprised 4.66 billion in January 2021, translating into a global internet penetration rate of 59.5% (DataReportal, 2021). Search engines like Google, Yahoo, or Bing help billions of online users discover the content they are looking for at a rapid pace by consolidating the enormous amount of available online data. As the leading search engine globally, Google made a revenue of 181.69 billion US dollars in 2020, which resulted in a global market share of 86.6% (Google, 2021). Even though Google does not reveal exact numbers, it is expected that the company handles 5.6 billion searches per day (BBC, 2020). These numbers illuminate the important role search engines play in directing and navigating user flows in the digital environment. Intriguingly, on the horizon, alternative search engines are emerging. Unlike Google, Yahoo, or Bing, green search engines invest a substantial part of their profits in environmentally friendly projects. For instance, Ecosia, as the world's largest eco-conscious search engine, invests at least 80% of its monthly profits in global tree-planting projects (Ohr, 2020). Over the past two years the green search engine is experiencing a considerable increase in user numbers especially among German users (StatsCounter, 2021).

1.1.1 Ecosia - The Green Search Engine that Plants Trees

"The climate crisis is the biggest existential threat that humanity has ever faced, and we have very little time left to prevent a global catastrophe. Our efforts to protect biodiversity have never been more critical [...]. I am really proud of what we have achieved so far, thanks to our passionate users. But we can't stop here! I hope more people will now make the switch to Ecosia and help us plant billions more trees". (Christian Kroll, CEO of Ecosia, cited in Ohr, 2020, n.p.)

Ecosia is the world's largest environmentally aware search engine, headquartered in Berlin, Germany (Farmbrough, 2021). Ecosia stands out as the first one of its kind by investing a substantial part of its monthly profits into global tree-planting projects (Ecosia, 2021). Like other search engines, Ecosia generates money from clicks on advertisements on the search engine result page. As of May 2021, the company financed over 125 million trees and encouraged over 15 million individuals to use their green services (Ecosia, 2021). Especially in the last two years, the company's market share grew significantly. Between July 2019 and February 2021, Ecosia's global market share has increased from 0.04% to 0.13% (StatCounter, 2021). The countries in which the market share grew the most are France, Germany, and the UK (StatCounter, 2021).

The social business was founded by the entrepreneur Christian Kroll in 2009. As opposed to traditional search engines, Ecosia focuses on creating societal progress and economic efficiency simultaneously by rethinking the goals and incentives that guide the company's decision-making. In 2014, Ecosia became Germany's first certified B-Corporation (The Ecosia Blog, 2014). The certification ensures that criteria like transparency, fairness, sustainability, impact and dependability are met, and the certification is only distributed to businesses fulfilling strict requirements (BCorporation, 2021). Since 2018 Ecosia is an organisation in steward-ownership. While in conventional businesses, shareholders can sell, or dismantle a company, a business in steward-ownership cannot be sold, and capital cannot be extracted (Purpose, 2019). Within steward-ownership, companies act as social organisms, working for a common purpose. These organisations redefine ownership by acting according to two common principles: First, these organisations establish stewardship as an alternative to conventional

control allocation and second, they are replacing shareholder value-maximisation (Purpose, 2019). Steward-owned businesses help to prevent capitalistic wealth accumulation as they are self-owned and cannot be inherited. Every stakeholder contributes to the success and helps develop a more equitable and regenerative economy (Purpose, 2019).

1.2 Problematisation

Exploring green search engine usage among German millennials at the example of Ecosia is of interest for distinct reasons. Pressing environmental issues, such as climate change, ecological degradation, deforestation, and pollution, are the challenges of our time (White, Habib & Hardisty, 2019). To a large extent, these problems are anthropogenic in nature, which means they are caused by how people live, consume and behave (White, Habib & Hardisty, 2019). Establishing greener business solutions that benefit the environment is necessary. Ecosia rethinks the existing business model of search engines and simultaneously shifts users towards green consumerism. As reflected in the user numbers, more and more individuals are demanding Ecosia's green services. Over the past two years, the user numbers of Ecosia increased from 0,22% to 1,07% in Germany (StatCounter, 2021). Considering the immense market size of 66.4 billion internet users, this represents a considerable leap (ARD; ZDF, 2020). What makes these users decide for the green search engine?

Understanding Green Search Engine Usage in a Green Consumerism Context

Green consumerism is often associated with the act of green products purchases; however, its meaning is much broader. Sachdeva, Jordan and Mazar (2015, p.60) define green consumerism as "all behaviors that are undertaken with the intention of promoting positive environmental effects". Even though no money changes hands between users and Ecosia, individuals share their data, time and energy in exchange for the green services Ecosia provides. We argue that green search engine usage can, from this angle, be understood as a form of green consumerism. The body of literature about green consumerism has grown intensively over the past four decades (Peattie, 2010). However, the ongoing narrowness of the field means its value remains limited (Peattie, 2010). The majority of studies apply a quantitative research design and keep circling around the same topics such as why people recycle, use low-energy light bulbs, decide on green energy tariffs, consume organic food, or decide to drive a hybrid car (Kilbourne &

Beckmann, 1998; Kurisu, 2015; Peattie, 2010). While we acknowledge the importance of these studies, after all, food choices, modes of transportations and home management account for a substantial portion of environmental impacts, we criticise that the field of green consumerism lacks momentum (Peattie, 2010). Existing literature scarcely takes contemporary consumer behaviour phenomena into account. Green consumerism, especially in the light of a changing world, is seeing constant shifts, and we are only beginning to understand how a green consumer lifestyle can look like in a digitised world (Peattie, 2010). We argue that green search engine usage is an intriguing example of how digital green consumption can look like, and when considering the positive environmental effects that arise, it is essential to understand why individuals engage.

We have found distinct reasons for examining the phenomenon in relation to German millennials. Ecosia is headquartered in Berlin, Germany's capital city, and as previously mentioned, its local market share grew remarkably over the past two years (StatCounter, 2021). According to Ohr (2020), Ecosia experiences rapid growth, especially among the younger population. The author reports that in a recent straw poll, over 80% of Ecosia users were under the age of 29. Particularly millennials fall into this age group (Statista, 2020). Various researchers have demonstrated that millennials seek a life according to environmental values (Bresman & Rao, 2017; Deloitte, 2020; Wynes & Nicholas, 2017), and in a recent study, climate change and the protection of the environment were named as the number one concerns for millennials which makes the generation constantly looking for new opportunities to leverage sustainability (Deloitte, 2020). Moreover, millennials were the first generation to experience the digital world in their early years of life and are often referred to as digital natives (Statista, 2020). In summary, due to the generation's concern about the environment and their digital engagement (Deloitte, 2020), millennials represent an intriguing research object in relation to green search engine usage.

1.3 Aim and Research Question

The aim of this study is to broaden our understanding of green consumerism by exploring green search engine usage as an arising digital green consumerism phenomenon. The green search engine Ecosia is experiencing rapid growth, particularly among the younger German population (Ohr, 2020; StatCounter, 2021). However, thus far, no study has examined why German millennials engage. Following the above-outlined problematisation, we aim to close this gap by qualitatively exploring the reasons for green search engine usage from the perspective of German millennials. The following research question arises:

What are the reasons for German millennials to use the green search engine Ecosia?

1.4 Intended Contributions

By exploring the phenomenon of green search engine usage among German millennials, this study aims to contribute theoretically and practically.

First, we draw upon Palos-Sanchez and Saura (2018), who suggest that future research in the field of green search engine usage is needed. The authors suggest looking at different users in other geographical areas and by focusing on German millennials, we aim to contribute theoretically as the green search engine usage in relation to German millennials did not receive attention in research so far. Moreover, as outlined before, most green consumerism studies are quantitative in nature (Kilbourne & Beckmann, 1998; Kurisu, 2015; Peattie, 2010). Hence, we aim to contribute theoretically by applying a qualitative research design. We seek to develop an in-depth understanding of the phenomenon through the qualitative research design. Further, we incorporate various theories and models, such as the Multi-Level Factor Model by Sachdeva, Jordan and Mazar (2015), the Theory of Planned Behaviour by Ajzen (1991), the Value-Belief-Norm-Theory by Stern, Dietz, Abel, Guagnano and Kalof (1999), the Social Influence Theory by Kelman (1958) and Green Nudges by Schubert (2017) to understand and explore the rich nature of potential reasons for German millennials to use the green search engine Ecosia.

Second, this study holds practical implications for the organisation Ecosia as it illuminates the reasons for the usage from the perspective of German millennials. As previously discussed, millennials tend to be more environmentally conscious than their progenitors, and the generation is eager to demonstrate this (Best & Mitchell, 2018). Hence, the demand for greener product and service alternatives is anticipated to grow across all markets (Best & Mitchell, 2018). We conduct semi-structured interviews with German millennials who are using Ecosia to qualitatively explore their main reasons and underlying influences to make sense of the phenomenon. As the millennial generation expresses precise attention to green behaviours and green consumerism in general (Deloitte, 2020), Ecosia can use the insights of this study to better understand their users, optimise their green services according to their needs which can ultimately lead to an increase in user numbers.

Third, for the moment, eco-conscious search engines remain a niche market. However, Ecosia is not the only search engine with a sustainability focus. Other eco-conscious search engines, like Ekoru, giveWater, and OceanHero, aim to do social good while users are searching the web. Results of the present study can pave the way for other eco-conscious search engines to increase user numbers, particularly among German millennials. Kotler, Kartajaya and Setiawan (2010) suggest that organisations that act sustainably operate according to sustainable principles and start to consider new ways of doing business can potentially earn long-term profits. In the case of eco-conscious search engines, generating higher profits results in a shared ecological value from which society benefits as a whole.

1.5 Thesis Outline

1	The present thesis is structured in six chapters. The introduction chapter serves as the opening. It provides background information on the emergence of green search engines and introduces Ecosia. The research aim, the problematisation, and intended theoretical and practical contributions are discussed. Moreover, the research question is formulated.
2	The second chapter provides insights about the generation of German millennials and presents existing literature on the fields of pro-environmental behaviours and green consumerism. Furthermore, potential reasons for green search engine usage among German millennials deriving from existing literature are discussed, which derive from previous theories, models and concepts.
3	In the third chapter, we present the conceptual framework, which entails potential endogenous, exogenous and structural reasons for green search engine usage. The reasons logically derive from the literature review.
4	In the fourth chapter, the research philosophy, the research approach, and the research design are outlined. Moreover, the data collection process and the data analysis are presented. The chapter concludes with a discussion about the research quality and ethical considerations.
5	In the fifth chapter, we present the empirical findings which derive from the thematic analysis. The themes are presented, discussed and related to theory, respectively.
6	Chapter six entails the conclusion. The formulated research question is answered, and theoretical and practical contributions are outlined. We furthermore illuminate limitations of the study, make suggestions for further research and finish with concluding thoughts.

2 Literature Review

The present chapter aims to provide the reader with an overview of existing literature on the fields of pro-environmental behaviours and green consumerism. We further illuminate how German millennials fit into a green consumerism context. Through the literature review, we aim to identify routes for understanding the phenomenon of green search engine usage by shedding light on various theories and models. The literature review was carried out through keyword searches. The databases that are primarily used are Scopus and Web of Science.

2.1 Pro-Environmental Behaviours

Several researchers have defined that individual behaviours contributing to environmental sustainability are referred to as pro-environmental behaviours. For instance, White, Habib and Hardisty (2019, p.24) define pro-environmental behaviour "as actions that result in decreases in adverse environmental impacts", Steg and Vlek (2009, p.309) refer to it as "behaviours that harm the environment as little as possible, or even benefit the environment", and Stern (2000, p.408) defines it "as behavior that is undertaken with the intention to change (normally, to benefit) the environment". These definitions are sufficiently broad to include a variety of behaviours.

Pro-environmental behaviour is an overarching term that describes over 200 different forms of sustainable behaviours, such as recycling, waste management, reduction of meat consumption, water-saving, energy-saving, or buying green products (Kurisu, 2015). According to Kurisu (2015), pro-environmental behaviour is the term that appears most frequently in academic literature. Other frequently used alternatives are environmental behaviour (Van Liere & Dunlap, 1978), ecological behaviour (Kaiser & Fuhrer, 2003), environmentally responsible behaviour (Thøgersen, 2004), responsible environmental behaviour (Hines, Hungerford & Tomera, 1987) and environmentally significant behaviour (Stern, 2000). Due to the heterogeneity of the field, Stern (2000) suggests classifying pro-environmental behaviours into four distinct categories, (1) environmental activism, (2) nonactivist behaviours in the public sphere, (3) private-sphere environmentalism and (4) other environmentally significant

behaviours. According to Stern (2000), green consumerism represents a form of private-sphere environmentalism.

2.2 Green Consumerism

As outlined above, Stern (2000) classifies green consumerism as one form of pro-environmental behaviour. According to Kilbourne and Beckmann (1998), a clear idea of green consumerism first emerged in the 1970s, primarily in the United States. They report that research concentrated on energy use and pollution problems related to a narrow array of industries, including automobiles, oil, and chemicals. Moreover, consumption behaviours focused mainly on recycling and energy-saving and customer responses to promoting and labelling information. Market research data of the 1980s demonstrated further growing consumer interest in the environment. Green consumer behaviour appeared to be identified as a marketing opportunity for an expanding variety of businesses (Van Dam & Apeldoorn, 1996) and evolved further as an area for research (Henion & Kinnear, 1976). Early attempts to profile green consumers and recognise the connection between their attitudes and behaviours developed into more sophisticated trials to understand their drivers and psychology as well as the role of institutional factors (Kilbourne & Beckmann, 1998; Van Dam & Apeldoorn, 1996).

Sachdeva, Jordan and Mazar (2015, p.60) define green consumerism as "all behaviors that are undertaken with the intention of promoting positive environmental effects". The body of academic literature about green consumerism has grown intensively over the past four decades (Peattie, 2010). The majority of studies about green consumerism are quantitative in nature and circle around topics such as why individuals recycle, use low-energy light bulbs, decide for green energy tariffs, consume organic food or drive hybrid cars (Peattie, 2010). Green consumerism is a complex topic, and the body of literature in the field has grown significantly over the last four decades (Peattie, 2010). While green indicates the protection of environmental sources, consumerism frequently includes their destruction (Jackson, 2005). Magnusson, Arvola, Hursti, Åberg and Sjödén (2003) state that it overlays other concepts, like ethical, sustainable, or responsible consumerism, pointing to a shortage of clarity and consistency in awareness of green consumerism within research findings. Furthermore, the

authors argue that green might be considered to relate solely to environmental issues (Magnusson et al. 2003).

In the present chapter, we introduce ideas on understanding green search engine usage in a green consumerism context by discussing multiple theories, models, and concepts. More particularly, we discuss the Multi-Level Factor Model of green consumer behaviour by Sachdeva, Jordan and Mazar (2015), the Theory of Planned Behaviour by Ajzen (1991), the Value-Belief-Norm Theory by Stern, Dietz, Abel, Guagnano and Kalof (1999), the Social Influence Theory by Kelman (1958) and Green Nudges (Schubert, 2017).

2.3 German Millennials and Green Consumerism

Millennials, also referred to as Gen Y, were born between 1986 and 2003 (Statista, 2020). The millennial generation grew up in the time of technological revolution when the internet and electronic devices became familiar and easily accessible (Gurău, 2012; Hanks, Odom, Roedl & Blevis, 2008). Therefore, Millennials were the first to experience the digital world in their early years of life and are often referred to as digital natives (Statista, 2020) as they use the internet as their primary source of information (Oblinger & Oblinger, 2006). According to Huntley (2006), millennials take full advantage of the internet, as it is the generation's main communication channel. Furthermore, the author stresses that millennials are highly connected, seeking to build strong relations with the online and offline groups they belong to. Moreover, millennials pay great attention to the opinions of their surrounding groups and social media and rely heavily on them when making decisions (Morton, 2002).

Various researchers demonstrate that millennials seek a life according to green values (Bresman & Rao, 2017; Deloitte, 2020; Wynes & Nicholas, 2017). For instance, Wynes and Nicholas (2017) state that millennials strive for establishing lifelong sustainability patterns and live according to environmental values. Also, the pandemic has influenced the environmental attitude of the generation. Deloitte (2020) conducted two sets of surveys, a primary survey, before the Corona outbreak and a pulse survey, during the pandemic. While the survey before the pandemic showed that half of the respondents believed that climate change could not be stopped, the second survey, four months later, showed a more optimistic view that climate

change can be hindered (Deloitte, 2020). It is emphasised that millennials view the Corona pandemic as an opportunity to reset and take action to change the future. The study shows that millennials remain concerned about the anthropogenic effects on the environment and are willing to support local companies that positively impact the environment (Deloitte, 2020).

2.4 Understanding Green Consumerism

Over the last decades, marketers and policymakers' goal has been to understand the pillars that shape green consumerism. The question of how green consumerism can be explained is a complex one. Various authors have emphasized the heterogeneity of variables influencing behaviours in a sustainability context (Guagnano, Stern & Dietz, 1995; Kollmuss & Agyeman, 2002; Sachdeva, Jordan & Mazar, 2015; Steg & Vlek, 2009). For instance, Sachdeva, Jordan and Mazar (2015) suggest understanding green consumerism through endogenous, exogenous and structural factors as illustrated in Figure 1. The model illuminates the multifaceted nature of reasons that potentially lead to green consumerism.

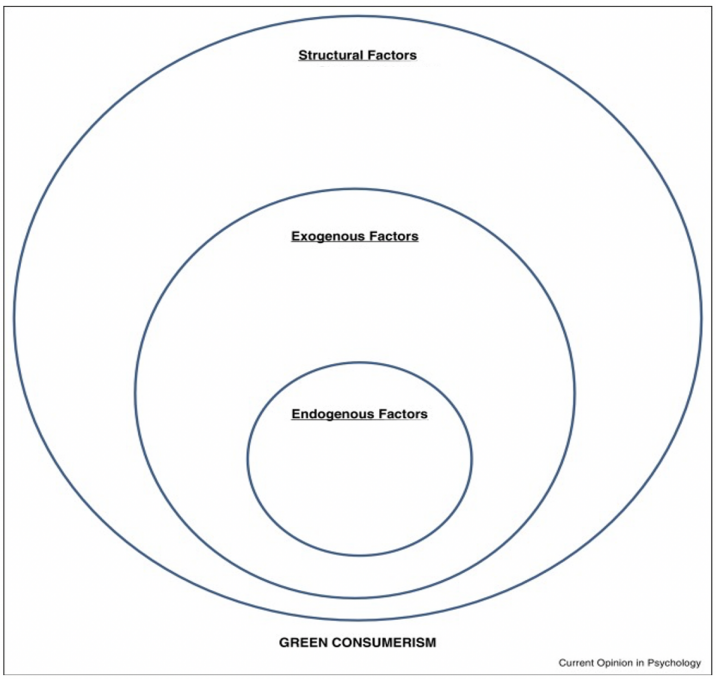

Figure 1 *Multi-Level Factor Model of Green Consumer Behaviour, adapted from Sachdeva, Jordan and Mazar (2015)*

2.4.1 Endogenous Factors

According to Sachdeva, Jordan and Mazar (2015), endogenous factors refer to the internal psychological processes that lead to green consumerism. The authors state that endogenous factors are the most commonly explored factors. The authors classify attitudes, personal values, belief structures, and perceptions as endogenous factors impacting green consumerism.

Attitude describes the positive or negative feeling towards a person, an object or behaviour (Sachdeva, Jordan & Mazar, 2015). While people's attitudes can be shaped and influenced by belief structures, cultural traditions, or other customs, it has been found that environmental attitudes have a changing, most likely minimal impact on pro-environmental behaviours in general (Kollmuss & Agyeman, 2002). Values are closely related to attitude and often referred to in discussions on developing a more sustainable relationship with the environment, and they also indirectly influence green behaviours through a feeling of moral obligations (Blankenberg & Alhusen, 2019; Schwartz, 1977). According to Stern (2000), the basis of all pro-environmental behaviours can be explained through attitudes and values. Furthermore, Sachdeva, Jordan and Mazar (2015) name belief structures as an endogenous factor that describes the expectation that behaving in a specific way results in a particular outcome. Individual beliefs relate to the efficiency a given green behaviour can make on the environment (Sachdeva, Jordan & Mazar, 2015). Belief structures are strongly intertwined with perceptions, as these refer to the perceived effectiveness. Beliefs and perceptions describe the extent to which consumers think that their actions can make a positive difference or impact (Peattie, 2010).

Due to the heterogeneity of endogenous factors influencing green consumerism, different theories emerged over the years. The leading theory in the field has been the Theory of Planned Behaviour developed by Ajzen (1991). The theory provides a good starting point to understand endogenous reasons for human behaviour.

2.4.1.1 Theory of Planned Behaviour

The Theory of Planned Behaviour grew out of the Theory of Reasoned Action, developed by Fishbein and Ajzen (1975). The Theory of Planned Behaviour has been widely used to predict and also explain human behaviour in various contexts (Ajzen, 2020). The theory holds that certain components predict human behaviours, namely belief structures, attitude toward the behaviour, subjective norms concerning the behaviour, and perceived behavioural control. According to Ajzen (1991), belief structures can be further classified into behavioural beliefs, normative beliefs, and control beliefs, influencing the components attitude, subjective norms, and perceived behavioural control. While the first two components, attitude and subjective norms, result in the intention to engage in a given behaviour, the component perceived behavioural control can directly influence the behaviour.

According to Ajzen (1991), attitude toward the behaviour refers to the overall evaluation and if it is positively or negatively valued. The attitude is influenced by behavioural beliefs, which describes the belief that one's behaviour leads to a specific outcome. The second variable is called the subjective norm concerning the behaviour. Subjective norms are assessed through the expectation if significant others approve of a given behaviour. Significant others can be individuals or groups, such as the spouse, family, friends, teachers, supervisors, and co-workers; it strongly depends on the studies context. According to the authors, subjective norms are influenced by normative beliefs. Normative beliefs describe the perceived behavioural expectations of significant others. Both aforementioned variables, attitude towards the behaviour and subjective norms, were already included in the theory of reasoned action, while the third variable, perceived behavioural control, is specifically added as a new variable for the Theory of Planned Behaviour. Perceived behavioural control refers to a person's belief of how easy or hard it is to engage a specific behaviour or act in a certain way, determined by past experiences and anticipated impediments or obstacles (Ajzen, 1991).

Most studies that used the Theory of Planned Behaviour are quantitative in nature (Yuriev, Dahmen, Paillé, Boiral & Guillaumie, 2020). However, the factors of the theory can be applied in qualitative studies as it allows researchers to analyse and present nuanced differences between the respective internal factors (Renzi & Klobas, 2008). While quantitative studies illustrate the usefulness of the theory to predict behaviours, applying the theory components in

qualitative research can improve the understanding of the underlying belief structures that lead to a certain attitude, subjective norm and perceived behavioural control, which ultimately result in individual behaviour (Renzi & Klobas, 2008). The Theory of Planned Behaviour has been widely used to understand behaviour in a vast range of different contexts, such as drug use, recycling, safer sex, travel mode, consumer behaviour, and technology adoption. The theory, however, remains an expectancy behaviour theory. It can incorporate affective or moral antecedents of behaviour only insofar as these are modelled as attitudinal beliefs about or evaluations of the outcomes of specific actions (Jackson, 2005). The following subsection explores the Value-Belief-Norm Theory as a theory that attempts much more explicit modelling of moral influences on environmental behaviour (Jackson, 2005).

2.4.1.2 Value-Belief-Norm Theory

The Value-Belief-Norm Theory developed by Stern et al. (1999) is often used to explain human behaviour in pro-environmental contexts. The Value-Belief-Norm Theory builds upon the Norm Activation Model (Schwartz, 1977) and holds that there is a causal chain of values, beliefs and norms which result in different forms of environmentally significant behaviour, one of them being green consumerism. In his later work, Stern (2000, p.412) emphasises that the Value-Belief-Norm Theory is "the best explanatory account to date of a variety of behavioral indicators of nonactivist environmentalism".

Stern et al. (1999) emphasise the importance of values in relation to pro-environmental behaviour. Values can be defined as "guiding principles in the individual's life" (Schwartz, 1992, p.17). Stern et al. (1999) state that values can be categorised into altruistic, biospheric and egoistic values. Altruistic values describe a value system that motivates individuals to contribute to the wellbeing of other people and species, which in turn motivates individuals to engage in pro-environmental behaviours (Stern, 2000). Biospheric values, the second type of value, are described as a value orientation, where "people judge phenomena on the basis of costs or benefits to ecosystems or the biosphere" (Stern & Dietz, 1994, p.70), hence strongly relates to the environment. The third type are egoistic values, which refers to an individual's self-interest regarding society, including authority, wealth, and being influential (Stern et al.

1999). It is important to note that different values can co-exist in the same person and hence influence pro-environmental behaviours (Jackson, 2005).
Although a direct relationship between values and behaviours can be drawn, this relationship is stronger when there are other factors, such as beliefs or personal norms (Ghazali, Nguyen, Mutum & Yap, 2019). As outlined above, the core idea of the Value-Beliefs-Norm Theory is that values influence pro-environmental behaviours via beliefs and norms. Beliefs are subdivided into an ecological worldview, the adverse consequences for valued objects and the perceived ability to reduce threat (Stern et al. 1999). While an ecological worldview describes human-environment relations, the second belief describes that environmental conditions threaten the things the individual values, and the third belief describes that the individual can reduce the threat through personal actions (Stern et al. 1999). As a third factor, the Value-Belief-Norm Theory incorporates personal norms (Stern et al. 1999). According to Stern et al. (1999), such norms lead to a general predisposition that influences different kinds of pro-environmental behaviours. However, there are also personal norms that are behaviour specific. In many different contexts, personal norms have been identified as a successful antecedent of pro-environmental behaviour (Harland, Staats & Wilke, 2007; Jansson, Marell & Nordlund, 2011; Khare, 2015; Steinhorst, Klöckner & Matthies, 2015).

Green behaviours have been analysed from different theoretical angles. Frequently used theories are the Theory of Planned Behaviour by Ajzen (1991) and the Value-Belief-Norm Theory by Stern et al. (1999). While the first theory emphasizes attitudinal aspects, it fails to incorporate moral components. Beliefs and norms are emphasised in both theories, however the importance of values in relation to green behaviours is more thoroughly incorporated in the Value-Belief-Norm Theory.

2.4.1.3 Habits

One component which did not receive attention in the theories mentioned above are habits. Habits describe automatic behaviours in specific situations (Peattie, 2010). Green consumption research frequently employs behavioural models and theories that assume a high degree of consumer involvement and conscious decision making. However, human behaviour is often habitual and guided by automated cognitive processes rather than elaborate reasoning and

deliberation (Steg & Vlek, 2009). In a message-dense and fast-paced world, habits play a core role in the consumption of products and services (Peattie, 2010).

Habits and routines receive increasing attention in green consumerism research (Steg & Vlek, 2009; Stern, 2000; White, Habib & Hardisty, 2019; Peattie, 2010). Green behaviours often require a transformation of old habits (Dahlstrand & Biel, 1997; Stern, 2000; White, Habib & Hardisty, 2019). This transformation may involve high costs for the individual, even if the new behaviour is more environmentally friendly. One way to encourage green behaviour is to make the adaptation as easy as possible, resulting in habitual behaviour. As Frederiks, Stenner and Hobman (2015) outline, this could be setting the sustainable option as the default, which simplifies the decision-making process for the individual and will most likely lead to repetition of the sustainable action. Individuals are often reluctant to make active choices, which has to do with bounded rationality (Beshears, Choi, Laibson & Madrian, 2008). The impact of setting green defaults is principally independent of pre-existing personal environmental attitudes (Vetter & Kutzner, 2016). Research within the green default setting has been perceived across various experimental and applied contexts, including residential energy consumption (Brennan, 2007; Hartman, Doane & Woo, 1991; Pichert & Katsikopoulos, 2008; Sunstein & Reisch, 2014).

2.4.2 Exogenous Factors

As outlined above, previous theories and models on human behaviour commonly apply a person-centred approach, assuming that green consumerism can be sufficiently explained from within the individual. However, a substantial body of literature emphasises the relevance of exogenous reasons in relation to green behaviours (Guagnano, Stern & Dietz, 1995; Kollmuss & Agyeman, 2002; Sachdeva, Jordan & Mazar, 2015; Stern, 2000). Stern (2000, p.418) stresses that "studies that examine only attitudinal factors are likely to find effects only inconsistently, because the effects are contingent on capabilities and context. Similarly, studies that examine only contextual variables, such as material incentives, social norms, or the introduction of new technology, may find effects but fail to reveal their dependence on individuals' attitudes or beliefs". Individual green consumerism is embedded in a social context, in the sense that green behaviours are dependent on social influences from others. According to Abrahamse and Steg

(2013), social influence refers to how human behaviour is affected by other people. In a meta-analysis, the authors name social factors as one of the strongest factors to encourage green behaviours. The Social Influence Theory developed by Kelman (1958) is a theory that can be utilised to understand how social influences can work.

2.4.2.1 Social Influence Theory

The Social Influence Theory holds that significant others influence an individual's beliefs, attitudes, and subsequent behaviour through three main processes: compliance, identification, and internalisation (Kelman, 1958). The three processes have to be understood as different ways of how social influence can occur. According to Kelman (1958), the first process describes compliance which occurs when individuals accept social influence because they hope to achieve a favourable reaction from significant others or group members. Further, the induced behaviour is only adopted because the individual thinks it avoids social disapproval. To put it in Kelman's (1958, p.53) own words, "the satisfaction derived from compliance is due to the social effect of accepting influence". Hence, through compliance, the behaviour is not adopted because the person is convinced internally. The second process Kelman (1958) describes is identification, which occurs when an individual accepts influence due to the desire to establish or keep a relationship with another person or group. The individual adopts the induced behaviour because it is connected with the desired relationship. Kelman (1958, p.53) emphasises that "he [sic] adopts the induced behavior because it is associated with the desired relationship". The third process, internalisation, is assumed to occur when an individual accepts to be socially influenced because the induced behaviour is intrinsically rewarding for that person. The individual adopts the induced behaviour because it is congruent with the personal value system (Kelman, 1958). Kelman (1958, p.53) elaborates, "the satisfaction derived from internalization is due to the content of the new behavior".

2.4.3 Structural Factors

Above, we have talked about a myriad of factors that potentially influence and explain green consumerism endogenously and exogenously. Sachdeva, Jordan and Mazar (2015) suggest another category of factors, namely structural factors. The authors state, "green consumerism

may be addressed by restructuring the landscape in which green consumer choices are currently made" (Sachdeva, Jordan & Mazar, 2015, p.63). According to Sachdeva, Jordan and Mazar (2015), decision nudges, an instrument stemming from behavioural economics, have explanatory power in relation to green consumerism.

2.4.3.1 Green Nudges

The term nudge gained wide recognition through the influential book by Thaler and Sunstein (2009). The authors state that nudges can influence individual choices from the outside, and when knowing how people think, suitable choice architectures and other tools can be used to nudge individuals toward a particular behaviour without risking the freedom of choice.

Schubert (2017) further elaborates on nudges in a green consumerism context. Green nudges, green due to the environmental context, are regarded as a promising way to direct individuals towards all kinds of green behaviours (Schubert, 2017). The author distinguishes between three variations of environmental nudges. The first variation refers to simplifying product or service information or marking particular product or service aspects more salient. The second variation of green nudges refers to the herd behaviour of people. Individuals tend to imitate their peers' behaviour and generally have a strong desire to fit into a group. Hence instruments that leverage a feeling of we-ness can be successful instruments for nudging green behaviour (Schubert, 2017). Within this variation of green nudges, Peattie (2010) talks about collective action and activism to motivate green consumption behaviour. There is increasing acknowledgement that the behavioural adjustments required for sustainability will not be accomplished by concentrating only on the behaviour and attitudes of individuals (Southerton, 2005). Community projects for the provision of further pro-environmental actions appear as part of the pro-environmental communities' movement. So far, the consumer behaviour associations of such collective solutions are still inadequately understood. However, anecdotal proof shows that community-based strategies promoting green consumption behaviours are especially influential and effective (Burgess, 2003). The third type of green nudges coming from an organisation refers to making green behaviours the default option, such as energy providers offering green energy as a default (Schubert, 2017).

3 Conceptual Framework

The above-presented discussion highlights the multifaceted nature of reasons that potentially explain green behaviours. Furthermore, the discussion shows the necessity of looking from multiple angles to explore potential reasons for green search engine usage. Previous green consumption research was often quantitative in nature and applied theories and models from consumer behaviour research, such as the Theory of Planned Behaviour or the Value-Belief-Norm Theory trying to explain green consumerism solely from within the individual (Peattie, 2010). To get an in-depth understanding of the underlying reasons, we extend this one-dimensional view and qualitatively explore potential reasons from three different angles. The table shown below provides an overview of potential endogenous, exogenous and structural reasons. We have identified the potential reasons through the literature review in chapter two and grouped them into the three categories.

Type of Reason	**Potential Reason**	**Leading Question**	**Literature**
Endogenous	Beliefs, Attitude, Norms, Perceived Behavioural Control, Values, Habits	Are there endogenous reasons which lead to green search engine usage?	Ajzen, 1991; Stern et al. 1999; Stern, 2000; Sachdeva, Jordan & Mazar, 2015
Exogenous	Social Influence through Compliance, Identification, Internalisation	Are there exogenous reasons which lead to green search engine usage?	Kelman, 1958; Sachdeva, Jordan & Mazar, 2015;
Structural	Green Nudges coming from the organisation Ecosia	Are there structural reasons for green search engine usage?	Sachdeva, Jordan & Mazar, 2015; Schubert, 2017; Thaler & Sunstein, 2009

Table 1 *Potential Endogenous, Exogenous and Structural Reasons for Green Search Engine Usage among German Millennials*

3.1 Endogenous Reasons

Belief structures, the attitude towards the behaviour, norms concerning the behaviour, perceived behavioural control, and values derive from the Theory of Planned Behaviour (Ajzen, 1991) and the Value-Belief-Norm Theory (Stern et al. 1999). In line with our discussion above, habits can represent a potential endogenous reason for green search engine usage, as they play an essential role in relation to human behaviours, especially in a green consumerism context (Aarts, Verplanken & van Knippenberg, 1998; Steg & Vlek, 2009; Stern, 2000; White, Habib & Hardisty, 2019). The components mentioned above have been frequently utilised to understand and explain human behaviour in a green consumerism context (Jackson, 2005). We aim to understand if there are endogenous reasons for German millennials to use the green search engine Ecosia.

3.2 Exogenous Reasons

Social influences are important to consider in a green consumerism context as human behaviour is embedded in a social context and is dependent on the behaviours of others (Kelman, 1958; White, Habib & Hardisty, 2019). In a meta-analysis, Abrahamse and Steg (2013) named social factors as one of the strongest factors that encourage green behaviours. Kelman (1958) states three distinct processes of how social influence can be facilitated: compliance, identification, and internalisation. The present study aims to understand if social influences play a role in relation to green search engine usage among German millennials.

3.3 Structural Reasons

We are interested to understand how users perceive Ecosia as an organisation and if the organisation nudges its users to demand green services. As elaborated in chapter two, Schubert (2017) describes green nudges as a powerful tool to make individuals engage in green behaviours. Hence, we aim to explore if users feel induced by the organisation Ecosia in any way and if this represents a reason for the usage.

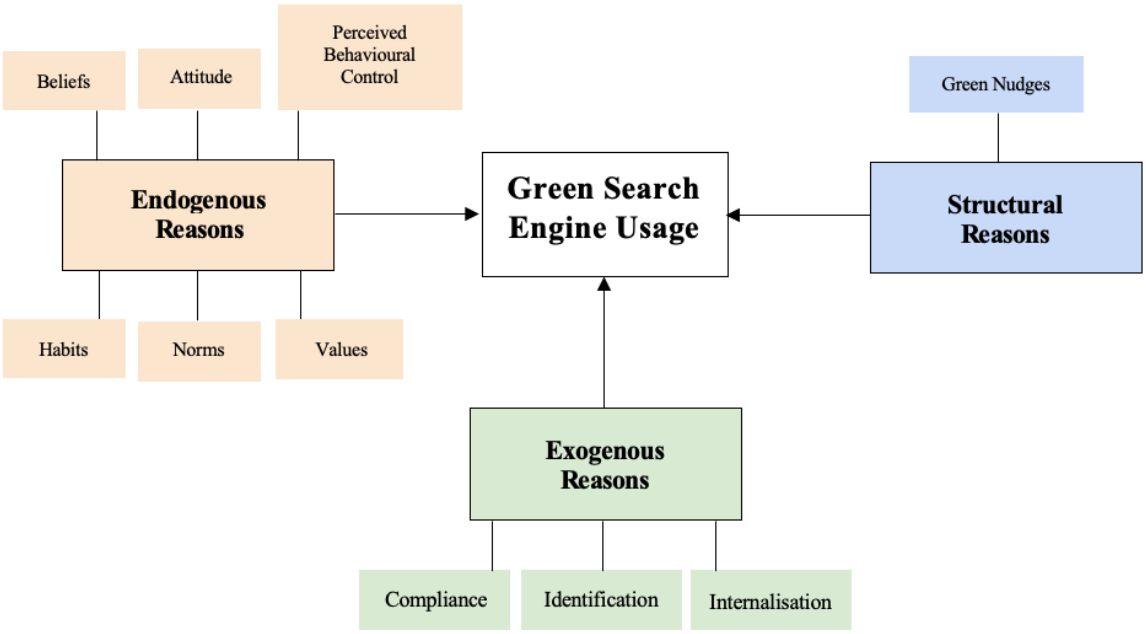

Figure 2 *Conceptual Framework Depicting Potential Reasons for Green Search Engine Usage from the Viewpoint of German Millennials*

4 Methodology

Chapter four provides the reader with methodological reasoning. We worked with the "Research Onion" by Saunders, Lewis and Thornhill (2007) to develop the methodology for the present thesis. The reader can expect to gain information on the research philosophy, the research approach, and the research design. The data collection process, as well as the data analysis, are outlined. The chapter concludes with a discussion about the research quality and ethical considerations. The methodological limitations are outlined under general limitations to be found in chapter six.

4.1 Research Philosophy

The research philosophy supports the methodological approach and is the basis of any study as it explains the set of beliefs the research is constructed on (Easterby-Smith, Thorpe & Jackson, 2015). In that vein of thinking, Saunders, Lewis and Thornhill (2009, p.124) state that the term research philosophy "refers to a system of beliefs and assumptions about the development of knowledge". The authors argue that a research philosophy is developed from an ontological and epistemological perspective and contains essential assumptions about how researchers view the world. Ontology describes "the nature of reality and existence" (Easterby-Smith, Thorpe & Jackson, 2015, p.46), epistemology describes "the theory of knowledge and helps researchers understand best ways of enquiring into the nature of the world" (Easterby-Smith, Thorpe & Jackson, 2015, p.46). According to Bryman and Bell (2011), research philosophies operate on different ontological and epistemological assumptions. These will impact the development of research strategy, research design, and research interpretation. Therefore, the relationship between epistemology and ontology to business research is important to understand (Bryman & Bell, 2011).

As Bryman and Bell (2011) defined, ontology, by nature, comes from the position of objectivism and constructivism. The authors state that social phenomena are developed based on people's perceptions, considering that there could be a different view of reality. The first viewpoint, objectivism, holds that "the position that social entities exist in reality is external to social actors" (Saunders, Lewis & Thornhill, 2009, p.129). In contrast to that, the second

aspect, constructionism, states that "social phenomena are created from the perceptions and consequent actions of those social actors concerned with their existence" (Saunders, Lewis & Thornhill, 2009, p.110). In summary, the former implies that reality is independent of the views of social actors, while the latter indicates the opposite. Having this in mind, we built the current study based on the assumption that "social actors have subjective perception and understanding of the world" (Easterby-Smith, Thorpe & Jackson, 2012, p. 70). An epistemological interpretive position describes "the understanding of the social world through an examination of the interpretation of that world by its participants" (Bryman & Bell, 2011, p.386). While the epistemological approach of positivism focuses on the idea of one correct interpretation of reality, the interpretive constructionists' view illustrates complex reality through the interpretive meaning of social actions (Saunders, Lewis & Thornhill, 2009). Since we strive to understand the multifaceted reasons for using the green search engine Ecosia from the perspective of German millennials, we adopt the epistemological view of interpretivism and an ontological view of constructionism. Hence, we assume that the world is socially constructed, and answers derive from people based on subjective opinions.

4.2 Research Approach

To understand the relationship between theory and research, it is essential to find a suitable research approach (Bryman and Bell, 2011). By defining a fitting research approach, the authors can ensure the achievement of the study's intended results and appropriate design (Bryman and Bell, 2011). According to Saunders, Lewis and Thornhill (2009), there are three distinct approaches to theory development: deductive, inductive, and abductive, which represent approaches to logical reasoning. According to Meyer and Lunnay (2012), while a deductive approach occurs when a theory guides the research process, an inductive approach occurs when researchers move between theory and data. For the present study, we applied an abductive research approach. Abduction refers to analysing data that does not fall into the initial theoretical frame (Meyer & Lunnay, 2012). The main difference between a deductive approach and an abductive approach is that abduction shows how things might be while deduction proves that something has to be in a certain way (Meyer & Lunnay, 2012).

The abductive approach has been selected as the investigation started with a theoretical discussion based on observations. Abduction can be understood as a combination of inductive and deductive elements and occurs when available premises are used to generate testable conclusions (Saunders, Lewis & Thornhill, 2009). The theoretical discussion is based on components of the Theory of Planned Behaviour developed by Ajzen (1991), the Value-Belief-Norm Theory developed by Stern et al. (1999), the Social Influence Theory developed by Kelman (1958), the Multi-Level Factor Model of Green Consumer Behaviour developed by Sachdeva, Jordan and Mazar (2015) and Green Nudges developed by Schubert (2017). Our objective is to understand underlying reasons for green search engine usage from the perspective of German millennials. To do so, we have regarded the phenomenon in the light of existing theoretical foundations. However, the abductive approach allows us not to be unnecessarily constrained by adhering to previously developed theory.

4.3 Research Design

Easterby-Smith, Thorpe and Jackson (2015, p.67) state that a research design is about "organizing research activity, including the collection of data, in ways that are most likely to achieve the research aims". The authors emphasize that a fitting and well-formulated research design determines the quality of the research. Furthermore, the research design represents an explanation and justification of what kind of data is needed and how it will be collected. Additionally, it specifies how the findings are analysed and how they can be applied to answer the research question.

According to Malhotra (2010), qualitative and quantitative research designs are the most commonly used methods. The author states that the main difference between these two methods is the way data is collected and analysed. While quantitative studies are numerical in nature and seek to quantify the data to make the knowledge generalizable, qualitative research is about getting an in-depth understanding through linguistics (Landrum & Garza, 2015; Malhotra, 2010). Qualitative research is often criticized for lacking in analytical rigour and generating data that cannot provide generalizable conclusions (Saunders, Lewis & Thornhill, 2019). However, there are also clear advantages to a qualitative research design. For instance,

qualitative data collection allows an in-depth understanding of the underlying reasons for the behaviour in questions, as the researchers can interact with interviewees (Saunders, Lewis & Thornhill, 2019). Furthermore, it becomes possible to explore underlying belief structures and attitudes towards a given subject. This aligns with Bryman and Bell (2011, p.466), who state, "in qualitative interviewing, there is much greater interest in the interviewee's point of view". The research design is determined by the data that we require to answer the research question (Bryman and Bell, 2015). As we aim to understand why German millennials use the green search engine Ecosia, we choose a qualitative research design.

Furthermore, there are two types of time horizons for academic studies, namely longitudinal and cross-sectional studies. While longitudinal studies require collecting data over a specific period of time, cross-sectional studies gather the data at a particular point in time. We are facing a practical constraint due to the limited time frame of only ten weeks preparing this study. Hence, we have to decide on a cross-sectional study, meaning we collect the data at one point in time. Therefore, our results are based on semi-structured interviews which we execute during a brief period in April 2021.

4.4 Data Collection and Process

In the previous sections, we have discussed the research philosophy, research approach and research design. As emphasized by Easterby-Smith, Thorpe and Jackson (2015), before the data collection process can begin, the researchers need to think about the research method that is being used and the selection process of potential participants. For the present study, we decide on collecting primary data through semi-structured interviews with German millennials using Ecosia.

4.4.1 Research Method

Semi-structured interviews are among the most popular and widely used data collection methods for a qualitative research design (Easterby-Smith, Thorpe & Jackson, 2015). Semi-structured interviews are described as "guided open interviews" (Easterby-Smith, Thorpe & Jackson, 2015, p.139), which are valuable as they allow for the collection of subjective

viewpoints and experiences (Evans & Lewis, 2018). Semi-structured interviews are conversationally conducted, with one interviewee at a time (Adams, 2015). Typically, the interviewer has a list of formulated questions that are subject to change. For instance, if the participant gives an unclear answer, semi-structured interviews allow the interviewer to ask further questions to comprehend the underlying motivations for giving that particular answer (Adams, 2015).

There are clear advantages but also drawbacks to semi-structured interviews, which we would like to highlight at this point. A clear advantage is that the interview technique allows for a flexible interview between the researcher and the interviewee, which means it represents a suitable instrument for gaining individuals' independent thoughts as the basis for collecting rich data (Adams, 2015; Easterby-Smith, Thorpe & Jackson, 2015). Even though researchers can work with an interview guide including preformulated questions, there is a possibility of changing the order of the questions or adding a follow-up question to understand better the participant's perceptions and reasoning (Adams, 2015). However, the main drawback of semi-structured interviews is the time and effort needed to conduct the interviews, as well as to analyse the high volume of data (Adams, 2015). Particularly while doing the data analysis, the researchers need to act carefully not to lose valuable insights. Furthermore, semi-structured interviews are often accused of not being objective due to a potential researcher bias (Adams, 2015). Moreover, semi-structured interviews require a high level of interviewing skills (Adams, 2015). Despite the drawbacks, we considered semi-structured interviews as the most appropriate and suitable qualitative research method for the present study, as we aim to understand the underlying reasons for green search engine usage, which we aim to explore from multiple angles.

4.4.2 Interview Guide and Procedure

According to Bryman and Bell (2011), an interview guide is a set of questions that is formulated before the beginning of the interview. Furthermore, the authors state that it has to be structured in different areas covered in the interview, and unlike a structured interview agenda, an interview guide allows a more open and general approach. Bryman and Bell (2011) state that the questioning allows interviewers to investigate the ways participants view their social world

as well as flexibility in conducting the interviews. Moreover, the formulated questions help to strengthen the dependability of a study. In preparation for the semi-structured interviews, we developed an interview guide with a list of key questions based on the theoretical foundations discussed in the previous chapters to ensure a good understanding and appropriate structure with the interviewees. The appliance of questions varied between the interviews, dependent on the flow during the conversation.

All interviews were conducted in April 2021. We were facing difficulties due to the circumstances emanating from the pandemic. Personal meetings were still restricted during the time of data collection. Hence the interviews were conducted digitally. We discussed availability with the participants beforehand. We have decided that the same interviewer would conduct all interviews to guarantee consistency. However, both researchers were present. Every participant was interviewed once, and we aimed to incorporate all questions of the interview guide. Some participants answered additional or follow-up questions when the answer was not entirely comprehensible for us. In total, we conducted twelve semi-structured interviews. At one point, the answers started to repeat themselves, and we did not get any new insights. Hence, we decided to stop the data collection process after the twelfth interview.

The first step was to introduce ourselves, and we explained the purpose and the motivations of the study. Furthermore, the participant was informed that the participation is voluntary, and that participation can be ceased at any time. The interviewer emphasized that there would be no right or wrong answers and that we would be merely interested in hearing personal options and thoughts. We explained the interview process and asked if the interview could be recorded. Furthermore, it was emphasized that the transcripts are anonymized, and that the interviewee cannot be identified as an individual. We ensured that the data would be stored carefully. Before the interviews were conducted, all participants signed the official consent forms from Lund University School of Economics and Management. Each participant was asked if they would feel comfortable in the interview environment to make sure nothing would disturb a fluent interview process. In the end, descriptive questions were asked not to intimidate the interviewee, as Adams (2015) suggested. All interviews were conducted in German. The interview guide, as well as the introduction, is illustrated in Appendix A.

4.4.3 Pilot Study

As suggested by Adams (2015), we conducted a pilot study to prevent misunderstandings before conducting the semi-structured interviews to ensure clarity during the actual data collection. It is important to ensure that questions do not evoke pressure to give specific and socially acceptable answers. The author states that pilot studies with a few intended respondents can be an excellent way to secure the interview guide's quality. Moreover, conducting semi-structured interviews requires a high level of professionalism and skills from interviewers. We followed the recommendations by Adams (2015, p.502) and applied "a casual, conversational approach that is pleasant, neutral, and professional, neither overly cold nor overly familiar". Due to the pandemic, our pilot study was conducted digitally and consisted of two participants to pre-test the questions. The questions were modified according to the pilot study's feedback and resulted in the final interview guide, illustrated in Appendix A.

4.4.4 Sampling Method and Selection of Participants

Bryman and Bell (2011) point out that selecting participants for qualitative interviews can bring a certain level of difficulties regarding the selection's transparency. While there are many different sampling methods, we have decided to concentrate on purposive sampling as a non-probability sampling technique for the present study. Easterby-Smith, Thorpe and Jackson (2015) illustrate that it enables researchers to determine eligible samples based on particular criteria deemed necessary to fulfil the purpose of the study and the probability that they will contribute to the theoretical understanding of the phenomenon. However, due to the current pandemic, it is essential to note that there is also a degree of convenience in selecting respondents. Thus, we followed McIntosh and Morse (2015), who argue that purposeful sampling can be used as a form of convenience sampling technique, enabling the researchers to choose respondents based on their availability and willingness to participate. The authors further emphasise that it is important that the chosen participants are adequate in the quest of gathering in-depth data suitable for answering the research question.

For this study, we concentrated on finding German millennials who are using the green search engine Ecosia. We selected the participants regarding the study's purpose to ensure valuable insights. The details of the semi-structured interview participants, including the anonymized

name, age, gender, and the date and time of the interview, are presented in Appendix B. As we aimed for a balanced sample, we interviewed six female and six male users. We first selected potential participants from within our network and contacted them via online platforms based on the determined sampling methods. Henceforth, we got eight German millennials who are using Ecosia from our immediate social environment who suited the criteria. Also, we contacted several users over Ecosia's official Facebook and Instagram page and found four matching candidates. Following Adams' (2015) advice, we formulated a detailed but explicit message sent online to request their participation. The statement introduced our research topic and some information about it without exposing too much information yet. We also added information on the confidentiality of the study and overall conditions. Interviews with the participants were made and planned via different online platforms.

4.5 Data Analysis

Data analysis refers to the process of interpreting and drawing conclusions from the collected set of data (Evans & Lewis, 2018). The process of data analysis requires careful and reflexive consideration, as well as thorough attention (Evans & Lewis, 2018). We applied a thematic data analysis which involved various steps. According to Braun and Clarke (2012), thematic analysis refers to the practice of identifying themes and patterns in the data set. The authors state that thematic analysis is a method within qualitative data analysis that is accessible, flexible, and increasingly popular. In the context of green search engine usage, thematic analysis represented a helpful approach as it enabled us to get an in-depth understanding of the interviewees' perspective. Braun and Clarke (2012) suggested that the analysis entailed six important steps, namely familiarisation with the data, coding, generating initial themes, reviewing themes, defining themes and writing up.

Before we started the familiarisation phase, we had to display the data. Semi-structured interviews are conversational in nature, hence with the consent of the interviewees, we recorded the interviews and transcribed the audio with the platform 'happyscribe.com' (HappyScribe, 2021). We decided to conduct all semi-structured interviews in German since all participants are native German speakers. Consequently, the semi-structured interviews had to be translated

from German to English. It is essential to follow a clear structure while transcribing to make sure no misinterpretations arise (Stuckey, 2014). The transcript must include precisely what has been said during the interview to present pure and unbiased research (Stuckey, 2014). Bryman and Bell (2011) emphasise that if interviewees repeat themselves, do not speak adequately, or speak with dialect, researchers can edit phrases if applied as quotes, but they should not be paraphrased. We followed these suggestions to display the collected data as accurately as possible. We decided to work with an Excel spreadsheet. Even though the semi-structured interviews differed from one another, following the interview guide gave a certain structure and helped to group the data in the spreadsheet. Once the data was displayed, the thematic analysis started.

The first step of thematic analysis was to familiarise ourselves with the data. This involved reading and re-reading the data multiple times to become immersed and intimately familiar with the content (Braun & Clarke, 2012). Evans and Lewis (2018) stress that themes typically appear more than once in the data set, but the frequency of instances of a theme does not automatically indicate its importance. It was an extensive process until we completed the familiarization phase and entered into the second phase, the coding process. This phase involved creating codes to identify essential characteristics of the data relevant to answering the research question. We have coded the entire data set, and afterwards, we extracted the most relevant data and codes for greater analysis. The third step incorporated generating initial themes, which involved assessing the codes and sort data more thoroughly to find patterns and form initial themes. To highlight initial themes, we have used colour coding to match each theme with a different colour. The third step was followed by the fourth step, which included reviewing the identified themes. This phase involved checking the themes against the data to determine if they tell a convincing story of the data and can be used to answer the research question. In this phase, we have refined the identified themes, which sometimes involved splitting or combining them. We considered this stage of data reduction a critical challenge as it required careful considerations to reduce themes and not lose valuable insights. However, data reduction is an important step as it serves to determine the data which is relevant to answer the research question. In the fifth phase, we identified and named the most relevant themes, from which some later translated into the reasons for using the green search engine Ecosia. The

sixth and last step in our thematic analysis journey was writing up and exemplifying thematic reasoning.

4.6 Quality of Research

According to Saunders, Lewis and Thornhill (2019), there are different criteria when evaluating the quality of research, such as validity and reliability. The authors state that validity refers to the appropriateness and accuracy of the measurements, whereas reliability refers to the consistency of the measurement. However, validity and reliability are often used for judging the quality of quantitative studies. Since qualitative research has a different nature than quantitative research, we had to find more suitable criteria for ensuring the quality of our research. Bryman and Bell (2011) suggest trustworthiness as appropriate measures for judging the quality of qualitative research. To guarantee trustworthiness, we considered different components. Lincoln and Guba (1985, pp.76-77) state: "In combination the criterion of credibility, transferability, confirmability and dependability are viewed as trustworthiness".

4.6.1 Trustworthiness

As outlined above, trustworthiness can be classified into different criteria, namely credibility, transferability, confirmability and dependability. The first component, credibility, can be evaluated to determine which findings are accurate and not biased (Lincoln & Guba, 1985). Our chosen method is semi-structured interviews. Intending to secure credibility, we have recorded and transcribed all conducted interviews to guarantee high-quality data. Since we had a specific target group with two distinct traits, German millennials and Ecosia users, purposive sampling was determined as the most suitable sampling technique, however, we like to emphasise that the study's credibility may be impacted by the use of a technique such as purposive sampling due to a potential bias. Transferability relates to the extent to which the findings of the study can be applied to other situations and contexts or even the same situation (Lincoln & Guba, 1985). This aspect of trustworthiness is often difficult to ensure in qualitative research due to the fact that it lies in the nature of qualitative research that samples are much smaller than quantitative samples, which makes transferability more difficult to achieve. However, Lincoln and Guba (1985) argue that researchers can focus on adding a thick

description of the qualitative research process, including the research aim, research design, theoretical frameworks, outcomes, and interpretations. Based on the descriptions we provided in this chapter, the reader can identify if it is possible to transfer the findings to other contexts or participants. Drawing upon the formulated research philosophy, the aim of this study was to understand the phenomenon within the specific context rather than creating transferability. The concept of confirmability in qualitative research can be seen as the matching pendant to objectivity, which is an essential measure in quantitative research (Lincoln & Guba, 1985). Confirmability can be seen as a verification that the research findings logically derive from the participants' answers more so than a researcher's bias shapes them. Lincoln and Guba (1985) stress that conformability is given when data and information can be traced back to their origins and that the logic behind the interpretations is comprehensible and coherent. To create confirmability, we have outlined our data collection measures and processes in great depth in the previous paragraph. Lincoln and Guba (1985) use dependability to be more specific with the term of reliability in qualitative research. Dependability refers to the consistency between raw data and findings (Saunders, Lewis & Thornhill, 2019). To guarantee dependability, we made ourselves aware of potential biases while conducting a qualitative study. Since semi-structured interviews are not a standardized approach, we developed an interview guide we presented and discussed with our supervisor. The discussion served as an external audit for the questions and ensured that we did not ask questions that lead the respondent in a specific direction.

4.7 Ethical Considerations

According to Easterby-Smith, Thorpe and Jackson (2015), ethical considerations can be seen as the moral principles that guide human actions. The authors state that the deliberation of ethical aspects is of utmost importance in academic research. Moreover, ethical considerations are essential for protecting the participants, the integrity of the study, and the academic institution's reputation. Ethical considerations guided the entire research process of the present study through securing a high level of confidentiality, privacy and consent before, while and after the study. The aforementioned ethical considerations were particularly considered in relation to the semi-structured interviews.

Each interview started with a short introduction, followed by outlining the purpose of the study. We aimed to make sure that participants had sufficient information to make well-informed decisions about their participation (Bryman & Bell, 2011). We verbally emphasized at the beginning of each interview that the participant could request to halt the interview and withdraw from the study at any time. We confirmed this in an email sent out to all participants prior to the interview. To further respect the principles of confidentiality and privacy, we did not reveal the participants' full name when presenting the findings. We have informed our participants that we would store the information for future reference. However, we assure that the collected data would be kept in a secure place. All present study participants were informed thoroughly about the research agenda and signed a consent form before the interview was conducted. Our interviews were conversational in nature and did not include factors, such as a physical experiment. As a result of this, we confirm that we could not detect any ethical or privacy risk resulting from our study for the participants, the integrity of our study or the academic institution.

5 Findings and Discussion

In chapter five, we present and discuss the empirical findings of this study. We have studied the data through thematic analysis and identified seven relevant themes. In the following, we present, discuss and relate the themes to theory.

5.1 Endogenous Themes

Four endogenous themes were identified from the interviews, namely 'perceived behavioural ease', 'green lifestyle', 'positive behavioural beliefs' and 'perceived disadvantages'. In the following, the themes are presented.

5.1.1 Perceived Behavioural Ease

Our interviews reveal that green search engine usage is perceived as easy to engage in. For instance, participant 9 considers green search engine usage as an effortless way to do something positive for the environment as the participant spends a lot of time in front of his computer. The participant describes further that he utilizes a search engine many times a day and considers using Ecosia over Google as easy to benefit the environment.

> *"I mean, I spend all day in front of my computer. I probably search at least 200 different things a day because I just search every thought that goes through my head. And I think quite honestly, if you search so much and you can do something positive for the environment just by using Ecosia instead of Google, everyone should do it".* - Participant 9

Also, participant 3 says that he spends a lot of time in front of his computer and uses the green search engine daily. He emphasises that the usage feels natural for him as he does not actively think about it anymore.

> *"I spend so much time in front of my computer. I use Ecosia on a daily basis, and using it is nothing I am actively thinking about anymore. It feels natural".* - Participant 3

Participant 12 points out that she perceives using Ecosia as "*kid-friendly"*. She uses the internet anyway, and Ecosia offers the participant an additional benefit to plant trees.

> *"The interface is almost kid-friendly, and Ecosia works as well as any other search engine. There are no technical hurdles. However, by using Ecosia, I have the additional benefit of planting trees".* - Participant 12

Participant 1 mentions an interesting point. Ecosia is set as the default search engine on her laptop and mobile phone, which simplifies the usage and makes it accessible.

> *"Ecosia is my default search engine on my laptop and mobile phone. This makes it easily accessible".* - Participant 1

Participant 7 also reports about the default setting and elaborates further. The participant reports that she did not install Ecosia as the default initially, which led to her not thinking about the green search engine anymore. The participant describes that through the default setting, the usage got convenient and habitual.

> *"In the beginning, I had not set Ecosia as my standard search engine and continued to use Google. I more or less forgot about Ecosia back then. However, since I installed it as my standard, it is very convenient, and no hurdle anymore".* - Participant 7

We also note that some participants compare green search engine usage to other green actions they engage in. For instance, participant 2 compares it to nutrition changes and reducing air travel, which he considers more difficult. The participant also talks about the favourable environmental effects resulting from using Ecosia.

> *"I believe using Ecosia is a really great thing. I would use a search engine anyway, and I can as well do it with something that plants trees. There are now so many ways to do something for the environment, and many are also relatively difficult for me. For*

example, eating less meat or reducing flights. But you have to change your habits, which is not easy for me, especially in terms of nutrition". - Participant 2

Also, participant 8 claims green search engine usage to be easier than other green actions. The participant uses shopping as an example and says that shopping in contrast to Ecosia usage requires a certain level of active decision-making.

"Green search engine usage for me is easier than other sustainable actions that I engage in because you set Ecosia once as your standard, and then it stays that way. It is not a daily decision that I have to make. I do not decide for or against Ecosia every time I search for something. With shopping, for example, it is perhaps also internalised by now, but definitely an active decision every time". - Participant 8

We identify 'perceived behavioural ease' as an endogenous theme for green search engine usage due to two factors in particular. First, green search engine usage is considered as an easy act to do something positive for the environment. Participants report that they use the internet on a daily basis. Hence green search engine usage feels natural. We have outlined in chapter two that millennials are often described as digital natives and that they are the first generation to experience the digital world in their early years of life (Statista, 2020). In contrast to the previous Generation X, who view technology as isolating, millennials take full advantage of the internet as a communication channel with the surrounding world (Huntley, 2006). We conclude that the digital context is a factor that facilitates green behaviours for German millennials, which became particularly clear when interviewees compared green search engine usage to other sustainable actions. For instance, participant 2 says that green search engine usage brings fewer sacrifices for him than other sustainable actions. Second, 'perceived behavioural ease' is linked to the default setting option. Participants emphasise that by making Ecosia the default, the usage got easier and more habitual. The user does not have to make an active decision for or against the green search engine anymore. All twelve interviewees set Ecosia as their default search engine either on their mobile phone, laptop, or on both devices. This aligns with Frederiks, Stenner and Hobman (2015), who emphasise that setting the sustainable option as the default, simplifies the decision-making process for the individual and will most likely lead to repetition of the sustainable action. The default setting in relation to

Ecosia seems to make the usage habitual and fosters the perceived easiness. We note that 'perceived behavioural ease' relates to the component of perceived behavioural control, a component of the Theory of Planned Behaviour discussed in chapter two. In the theory, the component of perceived behavioural control refers to people's perception of being capable of executing a particular type of behaviour (Ajzen, 1991). Capability refers to the perceived ease or difficulty of performing a given behaviour. In our case, we found that green search engine usage is seen as an easy act for German millennials, which they feel capable of.

Due to the above-stated discussion, we identify 'perceived behavioural ease' caused by the default setting option and the digital environment as an endogenous reason for green search engine usage among German millennials.

5.1.2 Green Lifestyle

We recognize that our interviewees report an environmentally friendly way of life, which seems to be of great importance for them. For instance, participant 4 speaks about several green activities he engages in. The participant describes that he follows a sustainable lifestyle and was actively looking for more sustainable actions to engage in, and this is how he learned about Ecosia.

> *"I try to live sustainably in all areas of life. The first thing I did was to see where I might produce the most waste, and then I kind of started with clothes and food and then tried to buy more sustainably and more regionally and without plastic. And with clothes, I did a no-buy-year for a year and actually did not buy anything for a year. So, I think my sustainable actions actually started with nutrition and clothes, and then I informed myself what else I could do, and that is how I found out about Ecosia".* - Participant 4

Also, participant 11 describes that he lives an environmentally friendly lifestyle, and Ecosia usage represents another way to leverage sustainability for him.

> *"I try to live as sustainable as possible in all areas of life, and for me using Ecosia is another great way to leverage sustainability. In the end, afforestation tackles pollution".* - Participant 11

Participant 5 reports that adopting a green lifestyle is an ongoing project for her. She describes that the process is in its early stages.

> *"I started to pay more attention to waste separation, buy less plastic, avoid plastic bags in the supermarket, etc. But of course, it is all a long way until it is really environmentally-conscious".* - Participant 5

Participant 6 shares his opinion about the European lifestyle, which, he thinks, is not beneficial for the environment. He says his engagement in green search engine usage is linked to the fact that we need to rethink the way we live. The participant wants to benefit the environment and future generations.

> *"The way we live in European countries harms the environment. Of course, Ecosia is just a drip on the hot stone. We need more initiatives like Ecosia as we urgently need to rethink the way we live. Otherwise, future generations cannot live on this planet anymore".* - Participant 6

We notice that interviewees engage in various sustainable activities and try to live sustainable lives. For our interviewees, green search engine usage is embedded in a broader idea of an environmentally friendly life concept. Ecosia usage represents one facet of the green lifestyle. In chapter two we discussed the relevance of values in relation to green behaviours. Values are considered to underlie individual green behaviour, which often builds the basis for engaging in different types of sustainable activities (Schwartz, 1977), in this case, the green lifestyle. It is illuminated in the Value-Beliefs-Norm Theory developed by Stern et al. (1999) that values play an essential role in general green behaviours. Particularly environmental protectionism and prevention of pollution were mentioned in the interviews, revealing that participants are thinking about the environment when making lifestyle decisions. We conclude that biospheric values, a value orientation where individuals make judgements and decisions based on costs

and benefits for the ecosystem, seem to play a role in relation to green search engine usage (Stern & Dietz, 1994). Interestingly, participant 6 is the only participant who emphasises future generations when speaking about environmental concerns. This answer can be associated with altruistic values, which describe a value system motivated by the well-being of other people and species (Stern & Dietz, 1994). According to Jackson (2005), several values can co-exist in the same person and influence green behaviours.

Due to the above-stated discussion, we identify 'green lifestyle' caused by the biospheric values and altruistic values as an endogenous reason for green search engine usage among German millennials.

5.1.3 Positive Behavioural Beliefs

We notice enthusiastic feelings and a prevalent belief that green search engine usage will lead to positive environmental outcomes among our participants. For instance, participant 12 describes that the usage creates a positive feeling to help fight climate change which she perceives as a widely discussed topic.

> *"I believe one of the reasons why I use Ecosia and not Google or so is because it makes me feel good. It gives me a feeling of doing something. You hear everywhere about climate change and using Ecosia feels like helping to fight it".* - Participant 12

Likewise, participant 3 describes a positive feeling that emerges through the usage of Ecosia. He perceives the usage as a contribution to *"a good cause"*.

> *"I am contributing to a good cause by using it, and that gives me a good feeling".* - Participant 3

Also, participant 10 describes the positive environmental outcome. Her definition of the environmental outcome is helping *"to minimize pollution"* through afforestation.

> *"Through afforestation, the environment is supported as this helps to minimize pollution."* - Participant 10

Moreover, participant 2 mentions that he is aware of the negative impact the western lifestyle has on the environment. He perceives the usage of Ecosia as an act of minimizing the damage and benefiting the environment.

> *"So, in Germany, we are living a lifestyle which is not sustainable. We have one of the biggest footprints in the world. Initiatives like Ecosia contribute to minimizing that footprint".* - Participant 2

Participant 1, a female student who has been using Ecosia for years, reports that she had positive behavioural beliefs, particularly at the beginning of the usage. She is still aware of her positive contribution but not as strong as in the beginning.

> *"In the beginning, I felt like I was actively doing something for nature, and it was always nice to see the number of trees you contributed. I still have a positive feeling when using Ecosia, but the feeling is not as strong as it was in the beginning".* - Participant 1

We have identified 'positive behavioural beliefs' as an endogenous theme for green search engine usage since participants report a feeling of benefiting the environment through the usage. More particularly, participants believe that through their behaviour, positive environmental outcomes are supported. Beliefs were emphasised by Ajzen (1991), who suggests that behavioural beliefs generally influence the overall attitude towards a given behaviour. Beliefs are further highlighted in the Value-Beliefs-Norm theory by Stern et al. (1999). The authors describe a causal chain of values, beliefs, and norms, which build the basis for pro-environmental behaviours. They classify beliefs into three different types: an ecological world view, the adverse consequences for valued objects, and the perceived ability to reduce the threat. Particularly, the third belief seems to play a role in green search engine usage among German millennials. Through the usage, our participants believe in tackling climate change and pollution problems. The theme 'positive behavioural beliefs' is connected to the theme

‘perceived behavioural ease’ and the theme ‘green lifestyle’ as participants repeatedly report that usage would positively contribute to the environment.

Due to the above-stated discussion, we identify ‘positive behavioural beliefs’ caused by the expected positive outcome for the environment as an endogenous reason for green search engine usage among German millennials.

5.1.4 Perceived Disadvantages

During the interviews, we recognise that some participants named negative points concerning the green search engine usage. Firstly, participants report that they sometimes switch to Google when they perceive that Ecosia delivers weaker search results. For instance, participant 11 explains that he switches to Google if the results are not satisfying, even though Ecosia is set as the default. The participant emphasised that he would Google if Ecosia could deliver the same search results.

> *“I always start searching with Ecosia, as it is my standard search engine, but if the results are not satisfying, I switch to Google. I would ban Google completely if I could get the same search results with Ecosia”.* - Participant 11

This point is further highlighted by participant 4. She names weaker search results as the only negative point about using Ecosia.

> *“The only thing that might be negative about Ecosia is that it is just not quite as powerful in terms of results as Google”.* - Participant 4

While several participants speak about the weaker search results, participant 2 names another disadvantage, namely missing-add-ons. He emphasises that Google offers services, and users can create their own account and use different devices through it.

> *“Compared to Google, a certain comfort is missing, but it is hard to compare Ecosia and Google. Search results are one thing. Of course, this is also related to the fact that,*

> *unlike Google, you are not logged in. With Ecosia, the search queries are not personalised, and it runs on Bing. And where Google is still way ahead is the interaction between different platforms: Maps, Google Drive, and much more. While Google integrates everything, Ecosia cannot keep up with that".* - Participant 2

However, we note that disadvantages are often quickly relativised. For instance, participant 2 adds, when speaking about disadvantages, that it would be hard to compete with an organisation like Google and emphasises that he is willing to forgo a certain comfort when there is the additional value of doing something good for the environment.

> *"Google has almost a monopoly position as a search engine. And that Ecosia search results are not the same as Google search results, I think, is clear. And that is perhaps also a bit of the philosophy of Ecosia: not all data is connected. Yes, a certain comfort is missing, but that is okay since Ecosia offers a different kind of value for the environment which Google does not".* - Participant 2

In sum, the interviews reveal two disadvantages concerning Ecosia usage. First, weaker search results and second missing add-ons. The service of Google is perceived as very high and hard to compete with. Nonetheless, participants set Ecosia as their default and use Google only if they perceive the search results as insufficient. Particularly, participant 2 shows that the perceived positive environmental impact represents a value, which Google does not offer.

We acknowledge that 'perceived disadvantages' do not influence German millennials to forego Ecosia as biospheric and altruistic values as well as the expected positive environmental outcome seem to outweigh the disadvantages.

5.2 Exogenous Themes

We have identified one exogenous theme, namely ‘social influence - internalisation’. In the following, the theme is presented.

5.2.1 Social Influence

We note that all participants have individuals in their immediate environment who are using Ecosia. Interviewees name family members, friends and fellow students. Participant 1 explains that part of her family and friends are using Ecosia. She reports the initial influence came from her aunt, who is working for the world wildlife fund for nature (WWF).

> *“Part of my family is using Ecosia and also some of my friends. My aunt, who is working for the WWF, encouraged me initially to use Ecosia a few years ago”.* - Participant 1

Participant 8 speaks about his fellow students who celebrated the tree-counting behind Ecosia. He reports that he immediately liked the idea behind the initiative.

> *“Hearing from my fellow students how they celebrated this counting of trees made me want to use it too. I thought right from the start it was a great idea”.* - Participant 8

Participant 4 is a student at Munich Business School, a German higher education institution that switched all campus devices from Google to Ecosia. The participant reports that through the change, he learned about Ecosia and started using it as a private user a little later.

> *“I am studying at Munich Business School, and all computers on campus have Ecosia installed as the default. This is how I got aware of Ecosia in the beginning. The idea sounded convincing, thus I started using Ecosia privately a little later”.* - Participant 4

Participant 10 reports that she was not influenced by friends but by social media. She says that one post by an influencer caught her attention. The participant liked the idea behind the organisation.

> *"I know some friends who are using Ecosia, but I think the influence, in the beginning, came from social media. I am following some environmentally conscious influencers, and one of them posted something about Ecosia. This caught my attention. I researched a little more and liked the idea a lot".* - Participant 10

Also, participant 9 has individuals in his immediate social environment who are using Ecosia. However, the participant reports that the initial influence came through an article in a German newspaper. The article aroused awareness.

> *"I think I read about it in the newspaper at some point. There was an article in the SZ. I have not heard about Ecosia before but reading the article got me interested. By now I know many people who are using Ecosia instead of Google".* - Participant 9

We note that participants report about social influence coming from family members, friends and fellow students. Other interviewees report they experienced an influence through media, for instance, participant 9, who read a newspaper article about Ecosia, and participant 10, who reported about an influence through social media. Participant 4 reports that his higher education institution switched all devices to Ecosia, which made him aware of the search engine Ecosia. Hence, we note a certain influence from the social environment. As discussed in chapter two, Abrahamse and Steg (2013) argue that social influence refers to how human behaviour is affected by others. The authors say that social factors are one of the strongest motivators in relation to green behaviours. Our findings need to be further understood through the Social Influence Theory by Kelman (1958). The theory holds that others influence individual behaviours and describes three main processes of how social influence can occur: compliance, identification, and internalisation. Through our interviews, we were able to identify that green search engine usage is internalised. Kelman (1958) says internalisation occurs when an individual accepts being socially influenced because the induced behaviour is intrinsically rewarding. This aligns with the present study's findings, as interviewees report that they experience an initial influence to use Ecosia. However, the continuous usage is caused because the behaviour is considered internally rewarding. This may be because the behaviour is congruent with the personal values and beliefs as outlined under the endogenous factors.

Due to the above-stated discussion, we identify ‘social influence - internalisation’ deriving from family members, friends, fellow students, media and the university as an exogenous reason for green search engine usage among German millennials.

5.3 Structural Themes

We have identified two structural themes, namely ‘positive perception of the organisation’ and ‘Ecosia’s tree-counter’. In the following, the themes are presented.

5.3.1 Positive Perception of the Organisation

We note that the organisation Ecosia is well received among our interviewees. For instance, Participant 12 talks about her long-time usage of Ecosia. From her perspective, Ecosia is a good and trustworthy organisation which influences her using the green services.

> *“I have been using Ecosia for a long time. If you look more closely into the organisation, it is pretty easy to understand that they are reliable, and it makes sense what they are doing”.* - Participant 12

Participant 7 speaks about the tree planting and financial reports Ecosia publishes. The participant explains that through the reports, a certain level of transparency is given. Participant 7 says she sometimes looks at the reports, which influences her positive perception of the organisation. An equal point is elaborated by participant 5, who says that through the reports, the organisation appears honest. The tree-planting reports make the initiative more tangible from the participants perspective.

> *“They somehow seem transparent. They show their financial reports even on Instagram, and they let you know where they plant the trees. As a user, you know what happens with the money they are generating. Especially when I started using Ecosia, I looked at these reports a couple of times”.* - Participant 7

> *"What I have experienced so far is that Ecosia is a tangible organisation. Their website shows the number of trees they have planted and the projects the planting sites they are supporting. You can also find monthly reports about it on their website. I look at that from time to time just to follow the development".* - Participant 5

Participant 3 reports about the steward-ownership of Ecosia. The participant reports that from his point of view, this increases honesty and authenticity.

> *"In my view, the company has changed quite a bit with the info that they signed a contract that the owner cannot sell the company. This makes the whole thing authentic and honest somehow".* - Participant 3

Furthermore, participant 1 talks about her positive connotations with Ecosia, which she explains through transparent communication and clear business focus on afforestation. She highlights that many companies seem not trustworthy these days since sustainability is often solely used to increase sales.

> *"I think nowadays it is hard to trust organisations. In my opinion, many companies use the topic of sustainability for their benefits. Green washing is a big problem. For me, Ecosia is doing a good job because they have a clear focus on afforestation. The organisation is actually taking the urgent environmental topic seriously, and I trust that they are not doing green-washing".* - Participant 1

The given answers reflect that the organisation Ecosia is positively connotated. No negative points were mentioned in our interviews in relation to Ecosia. Participants use attributes like transparent, honest, authentic, trustworthy and tangible to describe the organisation. The positive connotations seem to be based on transparent communication. Interviewees particularly highlight financial reports and tree-planting reports that are published. The answer of participant 3 reveals that his positive connotations are linked to the company's business model. Participant 1 reports that nowadays, many firms have started to make false promises about their green activities. However, they fail to do their justice. As discussed in chapter two, organisations can nudge green behaviour. According to Schubert (2017), green behaviour can

be nudged by simplifying information or making certain aspects more salient. In the case of Ecosia, it appears that through a clear business focus on afforestation, the sustainability component of the organisation becomes clearer for users.

Due to the above-stated discussion, we identify 'positive perception of the organisation' caused by transparent communication and the organisation's clear focus on sustainability as a structural reason for green search engine usage among German millennials.

5.3.2 Ecosia's Tree-Counter

When we ask what else induces our participants to use Ecosia, many answers entail the tree-counter, which is a tool Ecosia offers to visualise the number of trees users finance through their search queries. Participants name various aspects in relation to the tree-counter, for example, that the counter represents a reward system. For instance, participant 11 describes a direct reward he is gaining through the tree-counter.

> *"Ecosia deals with an urgent topic, and the reward is right in front of your eyes. With Ecosia, you always see directly how many trees you have financed through your searches. That also motivates you to keep using it".* - Participant 11

Ecosia provides two types of tree-counters. One shows the trees that all users collectively financed, and the other one shows the individual contribution. Participant 9 says that the tree-counter was one of the main reasons for downloading the green search engine in the first place.

> *"The tree-counter was one of the main reasons why I downloaded Ecosia 4 years ago. I like that I can see in the top right corner my own contribution as well as that Ecosia shows the total number of trees all users contribute collectively".* - Participant 9

Also, participant 10 speaks about the tree-counter and highlights an interesting point of view. She reports that in the beginning, the use of Ecosia had a gaming effect for her.

> *"At the beginning, that was somehow a bit like when you play a game like you can win something. I think the first 3 or 4 days where I used Ecosia, I really typed in an incredible amount of search queries just because I like that the number went up".* - Participant 10

Participant 5 describes that the tree-counter is strongly influencing her usage. The participant is even saying that without the tree-counter, the usage is pointless.

> *"If I could not see how many trees I have planted, there would be no point in using it".* - Participant 5

Another important point that was brought up concerning the tree-counter refers to the feeling of contributing collectively to the mutual goal of positively impacting the environment. For instance, participant 3 says that the tree-counter increases his awareness that many people are simultaneously contributing. He states to feel good about contributing something through the use of Ecosia.

> *"For me, the tree-counter increases awareness. You can see that the number keeps increasing. And then you think to yourself that you are part of it, that the number also grows because of you".* - Participant 3

Also, participant 6 touches upon the tree-counter and reports that the tree-counter creates a community feeling. Seeing the increasing numbers gives him a positive feeling about not being the only one who uses Ecosia.

> *"Whenever I land on the official site where the main tree-counter is displayed, it is great to see how it goes up by every second. It creates a sense of community. It is very nice to know that others are using the search engine and that you are not alone because one person is not really making an impact".* - Participant 6

Our findings identify the tree-counter as an important reason for using the green search engine. The reasons are versatile. While participant 11 considers the tree-counter as a direct reward

system, participant 9 talks about the visualised contribution on the individual as well as collective level. Further, participant 5 considers the tree-counter a vital tool that motivates her to use the search engine. It appears that the tree-counter makes the topic more tangible for the users. Reczek, Trudel and White (2018) outline that green behaviours may feel psychologically distant and vague for the individual; therefore, an abstract visualisation can lead to participation in eco-friendly actions. Interestingly, participant 10 is the only interviewee who is reporting about a game effect in relation to the tree-counter. Even though the tree counter is not an interactive game, her answer can be related to the concept of gamification. Hamari, Koivisto and Sarsa (2014, p.2) define gamification "as a means of supporting user engagement and enhancing positive patterns in service use, such as increasing user activity, social interaction, or quality and productivity of actions". Gamification has been used to enhance services and provide a gameful experience in various contexts, particularly in digital networks (Huotari & Hamari, 2012). The answers further reveal that the tree-counter gives a feeling of collective action, representing a strong influence for the users. This aligns with Bandura (1997), who outlines that a feeling of collective action represents a key motivator for green behaviours. Furthermore, White, Habib and Hardisty (2019) emphasise that collective action especially motivates individuals within the domain of sustainability. We recognise collective action as an influence for participants to use the green search engine evoked through the tree-counter. It seems that the tree-counter serves as an effective instrument to keep users motivated and engaged as it is a tool that influences and nudges the user choice from the outside (Thaler & Sunstein, 2009).

Due to the above-stated discussion, we identify 'Ecosia's tree-counter' as a structural reason for green search engine usage among German millennials because it creates a feeling of collective action, represents a reward system, and visualises the individual and collective contribution.

5.4 Chapter Summary

In the present chapter, we presented and discussed the findings of the twelve semi-structured interviews conducted in April 2021. In total, seven themes were identified, which are endogenous, exogenous and structural in nature.

The four identified endogenous themes are 'perceived behavioural ease', 'green lifestyle', 'positive behavioural beliefs', and 'perceived disadvantages'. (1) '**Perceived behavioural ease'** describes that green search engine usage is perceived as easy to engage in and an easy act to do something positive for the environment. Due to the facts that German millennials use the internet daily and that Ecosia is set as the default, the usage becomes easy and habitual, and no active decision for the usage is required anymore. (2) Participants report that green search engine usage is embedded in an overall '**green lifestyle'**. The answers reveal that the decision for the green lifestyle is based on costs and benefits for the environment as well as future generations. Hence, we identified biospheric and altruistic value systems underly the usage. (3) We identified '**Positive behavioural beliefs'** as our participants reported the prevalent perception of contributing something positive to the environment. This contribution refers to tackling climate change and pollution. (4) The interviews reveal two **'perceived disadvantages'** about the usage compared to Google, namely weaker search results and missing add-ons. However, the disadvantages were quickly relativized and did not hinder the usage. The identified environmental values and positive behavioural beliefs seem to outweigh the disadvantages.

We have identified one exogenous theme in relation to green search engine usage. (5) We found the theme **'social influence - internalisation'** as all interviewees have individuals in their direct social circle who are using Ecosia. Interviewees reported the initial influence came through family members, friends and fellow students, as well as media and a higher education institution. The continuous usage can be explained through internal rewards.

Moreover, we have identified two structural themes, namely 'positive perception of the organisation' and 'Ecosia's tree-counter'. (6) The first identified structural theme is the '**positive perception of the organisation'.** Ecosia is positively connotated which can be explained through the transparent communication and the clear sustainability focus of the

organisation. (7) ‘**Ecosia’s tree-counter’** serves as an instrument of the organisation to visualise the individual and collective contribution of the usage. The tree-counter is seen as a reward system that motivates the continuous usage of the green search engine. Furthermore, the tree-counter creates a feeling of collective action as it visualises the total number of trees that are financed collectively.

6 Conclusion

The present chapter entails the conclusion. The formulated research question is answered, and theoretical contributions and practical implications are discussed. Furthermore, we outline the limitations of the study and provide suggestions for future research. The chapter ends with concluding thoughts about the study.

6.1 Answering the Research Question

This study aimed to explore the arising phenomenon of green search engine usage among German millennials in a green consumerism context. Ecosia, as the world's largest eco-conscious search engine, is experiencing rapid growth, and we were particularly interested to understand why German millennials use the green search engine Ecosia. We were able to fulfil the research aim by developing a conceptual framework shown in chapter three, in which we have presented potential reasons for green search engine usage. The components of the conceptual framework guided the semi-structured interviews conducted with Ecosia users. Our findings reveal six distinct reasons for using the green search engine Ecosia from a German millennials' perspective, which are endogenous, exogenous and structural in nature. The reasons partly derive from the seven identified themes presented in chapter five. We depict a model of reasons in Figure 3, which shows the six reasons classified according to the three categories. In the following, we elaborate on our findings by answering the research question.

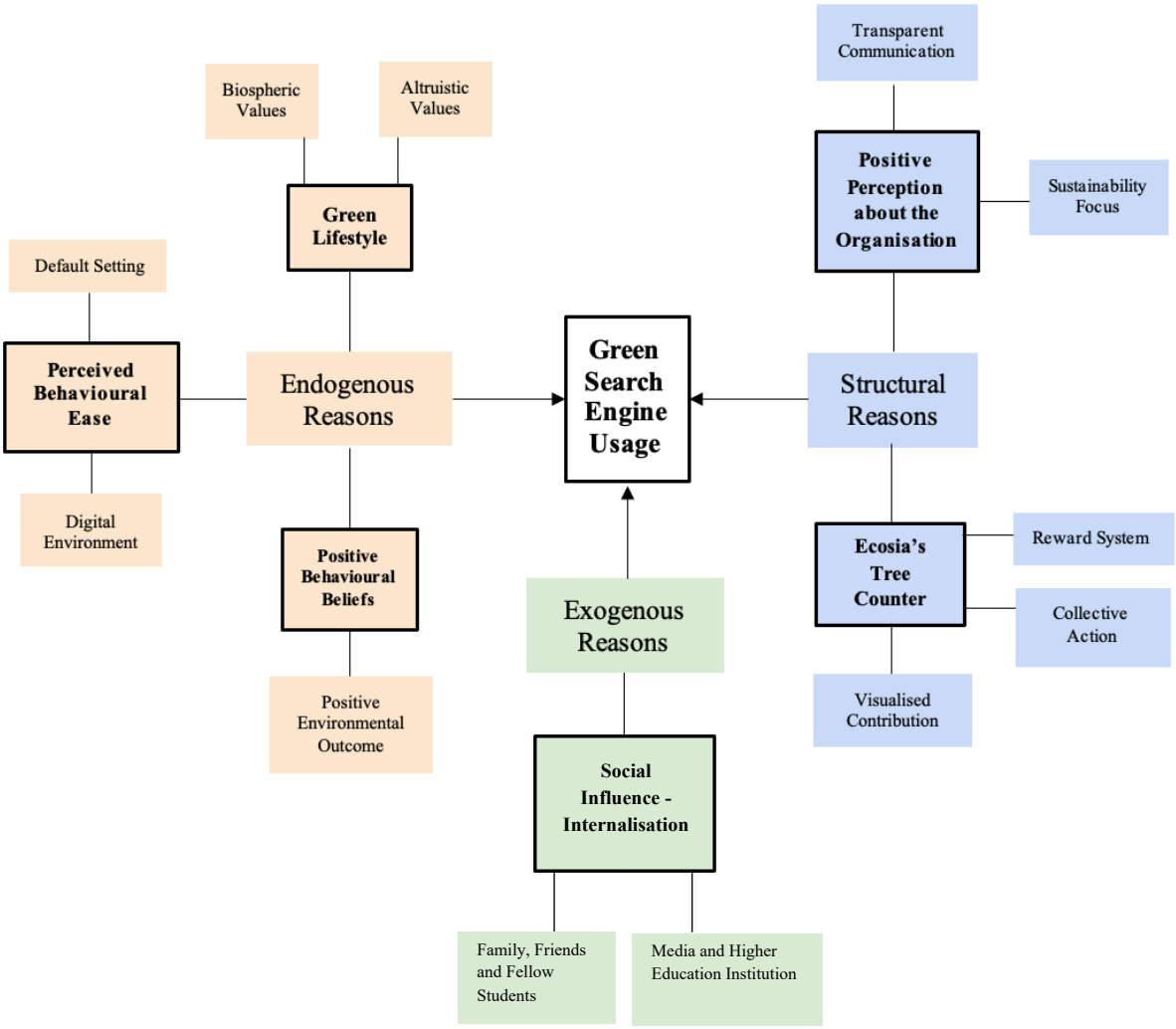

Figure 3 *Model of Reasons for Green Search Engine Usage among German Millennials*

First, we identified three endogenous reasons for using the green search engine Ecosia from the perspective of German millennials, namely 'perceived behavioural ease', 'green lifestyle' and 'positive behavioural beliefs'. The three endogenous reasons are intertwined as the interviews revealed that green search engine usage is perceived as an easy and effortless way to do something good for the environment, which is embedded in an overall environmentally friendly life concept based on biospheric and altruistic values.

(1) Our interviewees use the green search engine Ecosia because they perceive it as easy to engage in and an easy act to benefit the environment. Two points influence the perceived behavioural ease in particular. On the one hand, search engine usage is natural for German

millennials as the digital environment is their natural habitat where they spend a lot of time, and on the other hand, setting the green search engine as a default makes the usage easy and habitual as no active decision for using Ecosia is required anymore.

(2) The German millennials we have interviewed use the green search engine Ecosia because the behaviour is embedded in an overall green lifestyle. The green lifestyle entails several green activities, such as recycling or avoiding plastic. We identified that the green lifestyle is built upon an altruistic and biospheric value system as the decision for a green lifestyle is made due to weighing cost and benefits for the environment and future generations.

(3) The third endogenous reason for using the green search engine Ecosia are positive behavioural beliefs. Our interviews revealed that positive behavioural beliefs are based on the feeling of contributing to favourable environmental outcomes.

Second, we identified one exogenous reason for using the green search engine Ecosia, namely 'social influence - internalisation'. Social influence describes how human behaviour is influenced by others.

(4) Our findings reveal that the initial Ecosia usage is socially influenced. On the one hand, by family members, friends, fellow students, and on the other hand initiated by the media or the higher education institution. Through our interviews, we noted that social influence occurs through internalisation (Kelman, 1958). The continuous usage of the green search engine is considered as internally rewarding and aligns with the individual's values and beliefs.

Third, we identified two structural reasons for using the green search engine Ecosia, namely the 'positive perception of the organisation' and 'Ecosia's tree-counter'.

(5) The first structural reason we have found is a positive perception of the organisation. Participants used attributes like transparent, honest, authentic, trustworthy and tangible to describe the organisation. We recognised that the organisation is positively connotated, as no negative points were mentioned during the interviews. The assessment of our interviewees is based on transparent communication and the clear business focus on sustainability.

(6) The interviews revealed that Ecosia's tree-counter is one point that induces users to use the green search engine. The tree-counter visualises the individual and collective contribution and is perceived as a reward system that motivates continuous usage. Moreover, for some

participants, the tree-counter creates a feeling of collective action as it shows that many people use Ecosia simultaneously.

6.2 Practical Implications

By exploring the phenomenon of green search engine usage among German millennials, this study entails practical implications for Ecosia. We conducted twelve in-depth interviews with Ecosia users. While the green services Ecosia provides are overall well-received among the German millennials we have interviewed, two disadvantages were mentioned. First, the search results Google provides are overall perceived as more precise. Second, among our interviewees, Google add-ons are considered as a convenient benefit for the users. Even though the disadvantages were quickly relativised in the interviews, we recommend Ecosia to further optimise their services by focusing on delivering more precise search results and developing add-ons to attract more users.

Second, the findings obtained during the research provide helpful insights for the practitioners of other eco-conscious search engines, such as Ekoru, OceanHero, and giveWater. Our findings reveal that the idea of a search engine that does environmental good is very well received. Millennials are a generation that expresses precise attention to green actions in general (Deloitte, 2020), and practitioners should leverage the interest from this generation for increasing user numbers. We strongly urge practitioners to provide default setting options as our study participants reported that once they set Ecosia as their default search engine, the usage became habitual for them as no active decision for the usage is required anymore, which leads to perceived behavioural ease. Additionally, Ecosia's tree-counter was named as a motivator for the continuous usage as it visualises the positive environmental outcome and represents a direct reward system for the users. The tree-counter is also a tool that fosters collective action, as users can see that others contribute simultaneously. Therefore, we recommend other eco-conscious search engines to nudge the usage through an abstract visualisation of their contributions, easily visible for users. Transparent communication can also lead to a positive perception of the organisation, as shown in our study.

6.3 Theoretical Contributions

First, the lion share of green consumerism research is quantitative in nature. Hence the present study has made an important theoretical contribution by qualitatively exploring green search engine usage as a new digital green consumerism phenomenon. The study demonstrated the effectiveness of using a qualitative method and contributed to understanding why German millennials use a green search engine. Further, we drew upon Palos-Sanchez and Saura (2018), who suggested that more research in the field of green search engine usage in different geographical locations is necessary.

We followed the suggestion of Sachdeva, Jordan and Mazar (2015) to understand green consumerism behaviour from different angles. We affirm that the Multi-Level Factor Model by Sachdeva, Jordan and Mazar (2015) can be used to understand reasons for green search engine usage among German millennials, as our study highlights the importance of a multifaceted understanding of underlying reasons for green consumerism behaviours. Also the components of the Value-Belief-Norm Theory, the Theory of Planned Behaviour, the Social Influence Theory and Green Nudges can be utilized to understand green search engine usage.

6.4 Limitations and Suggestions for Future Research

The study was able to answer the formulated research question and, as a result of this, contribute both theoretically and practically. However, we admit that our study entails several limitations. We do not claim our study to be flawless as master students with time and budget constraints. We hope to inspire future research projects by openly describing the limitations of this study.

First, there are methodological limitations to the present study. As outlined, we conducted semi-structured interviews to understand the motives for green search engine usage among German millennials. Due to the corona pandemic, all interviews were conducted virtually. While this circumstance does not represent a methodological limitation per se, meeting research participants in person could have led to additional and valuable insights. Communication is by no means limited to voice, as facial expression and body language can

convey a great deal of information. While semi-structured interviews are an excellent tool to grasp the independent thoughts of research participants, this method requires interviewer sophistication (Adams, 2015). We did our best to familiarize ourselves with the requirements by reviewing relevant literature. However, we are not trained as professional interviewers. An interview guide is never carved in stone, and interviewers need to be flexible, objective while simultaneously making sure that the questions are not evoking pressure for the participant. To increase the reliability of our data, we conducted a pilot study to test the questions and practice interviewing skills. We furthermore decided that only one of us would conduct the interviews to secure consistency (Adams, 2015). In that vein of thinking, Adams (2015, p.493) highlights, "without an enormous outlay of time and personnel, SSIs [semi-structured interviews] are unlikely to encompass a large enough sample to yield precision of the "plus or minus *n* percent" variety". Another methodological limitation is linked to the fact that all answers were translated from German to English. While semi-structured interviews allow for personal exchange, we suggest focus groups as another exciting approach to gain further valuable insights and reasons for green search engine usage.

Second, in the present study, we explored green search engine usage at the example of Ecosia. While Ecosia is the largest green search engine in the market and is experiencing rapid growth, it would be of interest to understand the phenomenon from the perspective of users of other eco-conscious search engines, such as ekoru or OceanHero. Moreover, the present study focused on German millennials as the research object, following the distinct traits of this generation. We have chosen German users as our research object due to the considerable market leap that occurred over the past two years. The market share of Ecosia grew even more significantly in France. Hence conducting a comparison study between German and French users would be of interest. Additionally, our study solely concentrated on active Ecosia users. Future research could integrate people who have stopped using the green alternative or never used the engine before to elaborate on their reasons.

Third, we decided on a qualitative research design because we were interested in gaining an in-depth understanding of underlying reasons for green search engine usage. The aim has been achieved as we were able to gain valuable and rich insights into the phenomenon from the perspective of German millennials. However, we would have preferred to apply a mixed-method approach, but this was not practicable due to the limited time frame of only ten weeks

and the pandemic. Future studies shall consider a mixed-method research design or focus on a quantitative study to validate and generalise the findings. Moreover, we admit that conducting a case study would have been an interesting approach to explore the phenomenon, especially because secondary data would have been incorporated into the analysis.

Fourth, the chosen sampling method was purposive sampling. Purposive sampling is a technique in which the researchers rely on their judgments when choosing the sample. Hence the sampling technique itself brings a certain level of vulnerability due to potential biases in the selection process (McIntosh and Morse, 2015).

6.5 Concluding Thoughts

Ecosia and other green search engines hold only a tiny slice of the current search engine market share (Statista, 2021). However, it is worth keeping an eye on them. The millennial generation, and the subsequent generation Z, have concerns about environmental degradation and climate change, which gives them the desire to help drive positive change in the world (Deloitte, 2020). Both generations continue to push for a world where companies put sustainability ahead of profits and prioritise the environment (Deloitte, 2020). Our study reveals that green search engine usage is very well received among German millennials, not least due to organisational traits and tools that come along with Ecosia as an organisation. Ultimately, in an increasingly eco-conscious world, providing attractive digital green services can result in new ways of leveraging sustainability.

References

Aarts, H., Verplanken, B. & van Knippenberg, A. (1998). Predicting Behavior From Actions in the Past: Repeated Decision Making or a Matter of Habit?, *Journal of Applied Social Psychology*, [e-journal] vol. 28, no. 15, pp.1355–1374, Available Online: http://onlinelibrary.wiley.com/doi/abs/10.1111/j.1559-1816.1998.tb01681.x [Accessed 16 April 2021]

Abrahamse, W. & Steg, L. (2013). Social Influence Approaches to Encourage Resource Conservation: A Meta-Analysis, *Global Environmental Change*, [e-journal] vol. 23, no. 6, pp.1773–1785, Available Online: https://www.sciencedirect.com/science/article/pii/S0959378013001362 [Accessed 20 March 2021]

Adams, W. (2015). Conducting Semi-Structured Interviews, in *Handbook of Practical Program Evaluation*, 4th Edition., [e-book] Jossey-Bass, Available Online: https://www.researchgate.net/profile/William-Adams-22/publication/301738442_Conducting_Semi-Structured_Interviews/links/5b647bfcaca2724c1f2010d8/Conducting-Semi-Structured-Interviews.pdf [Accessed 2 April 2021]

Ajzen, I. (1991). The Theory of Planned Behavior, *Organizational Behavior and Human Decision Processes*, [e-journal] vol. 50, no. 2, pp.179–211, Available Online: https://www.researchgate.net/publication/272790646_The_Theory_of_Planned_Behavior [Accessed 4 February 2021]

Ajzen, I. (2020). The Theory of Planned Behavior: Frequently Asked Questions, *Human Behavior and Emerging Technologies*, [e-journal] vol. 2, no. 4, pp.314–324, Available Online: https://onlinelibrary.wiley.com/doi/abs/10.1002/hbe2.195 [Accessed 6 April 2021]

ARD; ZDF. (2020). Number of Internet Users in Germany from 1997 to 2020, *Statista*, Available Online: http://www.statista.com/statistics/380522/number-of-internet-users-germany/ [Accessed 29 May 2021]

Bandura, A. (1997). Self-Efficacy: The Exercise of Control, [e-book] W. H. Freeman, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=cat07147a&AN=lub.1131167&site=eds-live&scope=site [Accessed 22 March 2021]

BBC News. (2020). *BBC News*, 30 August, Available Online: https://www.bbc.com/news/business-53922786 [Accessed 16 May 2021]

Beshears, J., Choi, J. J., Laibson, D. & Madrian, B. C. (2008). How Are Preferences Revealed?, *Journal of Public Economics*, [e-journal] vol. 92, no. 8, pp.1787–1794, Available Online: https://www.sciencedirect.com/science/article/pii/S0047272708000728 [Accessed 13 May 2021]

Best, E. & Mitchell, N. (2018). Millennials, Gen Z, and the Future of Sustainability | Blog | BSR, *BSR*, Available Online: https://www.bsr.org/en/our-insights/blog-view/millennials-generation-z-future-of-sustainable-business [Accessed 25 May 2021]

Blankenberg, A.-K. & Alhusen, H. (2019). On the Determinants of Pro-Environmental Behavior: A Literature Review and Guide for the Empirical Economist, *SSRN Electronic Journal*, [e-journal], Available Online: https://www.ssrn.com/abstract=3473702 [Accessed 27 March 2021]

Braun, V. & Clarke, V. (2012). Thematic Analysis., [e-book], pp.57–71, Available Online: https://www.researchgate.net/publication/269930410_Thematic_analysis [Accessed 17 May 2021]

Brennan, T. J. (2007). Consumer Preference Not to Choose: Methodological and Policy Implications, *Energy Policy*, [e-journal] vol. 35, no. 3, pp.1616–1627, Available Online: https://www.sciencedirect.com/science/article/pii/S0301421506001960 [Accessed 14 May 2021]

Bresman, H. & Rao, V. D. (2017). A Survey of 19 Countries Shows How Generations X, Y, and Z Are — and Aren't — Different, *Harvard Business Review*, Available Online: https://hbr.org/2017/08/a-survey-of-19-countries-shows-how-generations-x-y-and-z-are-and-arent-different [Accessed 29 March 2021]

Bryman, A. & Bell, E. (2011). Business Research Methods, 3. ed., [e-book] Oxford University Press, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=cat07147a&AN=lub.2159828&site=eds-live&scope=site [Accessed 26 April 2021]

Burgess, J. (2003). Sustainable Consumption: Is It Really Achievable?, *Consumer Policy Review*, [e-journal] vol. 13, no. 3, p.78, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=10389386&site=eds-live&scope=site [Accessed 30 April 2021]

Certified B Corporation. (2021). , Available Online: https://bcorporation.net/ [Accessed 18 May 2021]

Dahlstrand, U. & Biel, A. (1997). Pro-Environmental Habits: Propensity Levels in Behavioral Change, *Journal of Applied Social Psychology*, [e-journal] vol. 27, no. 7, pp.588–601, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=9708172311&site=eds-live&scope=site [Accessed 28 April 2021]

DataReportal. (2021). Internet Users in the World 2021, *Statista*, Available Online: http://www.statista.com/statistics/617136/digital-population-worldwide/ [Accessed 18 May 2021]

Deloitte. (2020). Deloitte Global Millennial Survey 2020, *Deloitte*, Available Online: https://www2.deloitte.com/global/en/pages/about-deloitte/articles/millennialsurvey.html [Accessed 25 March 2021]

Easterby-Smith, M., Thorpe, R. & Jackson, P. (2015). Management and Business Research, 5. ed., [e-book] SAGE, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=cat07147a&AN=lub.4872855&site=eds-live&scope=site [Accessed 22 February 2021]

Easterby-Smith, M., Thorpe, R. & Jackson, P. R. (2012). Management Research, SAGE, Available Online: https://books.google.se/books?hl=de&lr=&id=3VJdBAAAQBAJ&oi=fnd&pg=PP1&dq=easterby-smith+management+research+2012&ots=AklionC9TH&sig=urcHcvMaf2qV8pywXn993lwRy7w&redir_esc=y#v=onepage&q=easterby-smith%20management%20research%202012&f=false [Accessed 27 April 2021]

Ecosia. (2021). Ecosia ist die Suchmaschine, die Bäume pflanzt, *Ecosia Info*, Available Online: https://info.ecosia.org/?ref=fb-share [Accessed 2 May 2021]

Evans, C. & Lewis, J. (2018). Analysing Semi-Structured Interviews Using Thematic Analysis: Exploring Voluntary Civic Participation Among Adults, [e-book] 1 Oliver's Yard, 55 City Road London EC1Y 1SP United Kingdom: SAGE Publications, Ltd., Available Online: http://methods.sagepub.com/dataset/interviews-thematic-civic-participation [Accessed 29 April 2021]

Farmbrough, H. (2021). How The World's Largest Green Search Engine Is Fighting Climate Change, *Forbes*, Available Online: https://www.forbes.com/sites/heatherfarmbrough/2020/11/10/fighting-climate-change-with-the-worlds-largest-green-search-engine/ [Accessed 27 April 2021]

Fishbein, M. & Ajzen, I. (1975). Belief, Attitude, Intention and Behaviour: An Introduction to Theory and Research, Vol. 27, [e-book], Available Online: https://www.researchgate.net/profile/Icek-Ajzen/publication/233897090_Belief_attitude_intention_and_behaviour_An_introduction_to_theory_and_research/links/55ad2c1b08ae98e661a405b0/Belief-attitude-intention-and-behaviour-An-introduction-to-theory-and-research.pdf [Accessed 27 April 2021]

Frederiks, E. R., Stenner, K. & Hobman, E. V. (2015). Household Energy Use: Applying Behavioural Economics to Understand Consumer Decision-Making and Behaviour, *Renewable and Sustainable Energy Reviews*, [e-journal] vol. 41, pp.1385–1394, Available Online: https://www.sciencedirect.com/science/article/pii/S1364032114007990 [Accessed 26 April 2021]

Ghazali, E. m., Nguyen, B., Mutum, D. s. & Yap, S.-F. (2019). Pro-Environmental Behaviours and Value-Belief-Norm Theory: Assessing Unobserved Heterogeneity of Two Ethnic Groups, *Sustainability (Switzerland)*, [e-journal] vol. 11, no. 12, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edselc&AN=edselc.2-52.0-85069778212&site=eds-live&scope=site [Accessed 21 May 2021]

Google. (2021). Annual Revenue of Google from 2002 to 2020, *Statista*, Available Online: http://www.statista.com/statistics/266206/googles-annual-global-revenue/ [Accessed 17 April 2021]

Guagnano, G. A., Stern, P. C. & Dietz, T. (1995). Influences on Attitude-Behavior Relationships: A Natural Experiment with Curbside Recycling, *Environment and Behavior*, [e-journal] vol. 27, no. 5, pp.699–718, Available Through: Scopus https://journals-sagepub-com.ludwig.lub.lu.se/doi/pdf/10.1177/0013916595275005 [Accessed 9 April 2021]

Gurău, C. (2012). A Life-stage Analysis of Consumer Loyalty Profile: Comparing Generation X and Millennial Consumers, *Journal of Consumer Marketing*, [e-journal] vol. 29, no. 2, pp.103–113, Available Online: https://doi.org/10.1108/07363761211206357 [Accessed 21 May 2021]

Hamari, J., Koivisto, J. & Sarsa, H. (2014). Does Gamification Work? — A Literature Review of Empirical Studies on Gamification, Proceedings of the Annual Hawaii International Conference on System Sciences, 1 January 2014, Available Online: https://www.researchgate.net/profile/Juho-Hamari/publication/256743509_Does_Gamification_Work_-_A_Literature_Review_of_Empirical_Studies_on_Gamification/links/0c960523b36be81843000000/Does-Gamification-Work-A-Literature-Review-of-Empirical-Studies-on-Gamification.pdf [Accessed 3 May 2021]

Hanks, K., Odom, W., Roedl, D. & Blevis, E. (2008). Sustainable Millennials: Attitudes towards Sustainability and the Material Effects of Interactive Technologies, *Human Factors in Computing Systems*, [e-journal] pp.333–342, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edscma&AN=edscma.1357111&site=eds-live&scope=site [Accessed 25 March 2021]

HappyScribe. (2021). Happy Scribe - My Transcripts, *Happy Scribe*, Available Online: https://www.happyscribe.com/ [Accessed 29 April 2021]

Harland, P., Staats, H. & Wilke, HenkA. M. (2007). Situational and Personality Factors as Direct or Personal Norm Mediated Predictors of Pro-Environmental Behavior: Questions Derived From Norm-Activation Theory, *Basic & Applied Social Psychology*, [e-journal] vol. 29, no. 4, pp.323–334, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=27404367&site=eds-live&scope=site [Accessed 21 May 2021]

Hartman, R. S., Doane, M. J. & Woo, C.-K. (1991). Consumer Rationality and the Status Quo, *The Quarterly Journal of Economics*, [e-journal] vol. 106, no. 1, pp.141–162, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.2937910&site=eds-live&scope=site [Accessed 14 May 2021]

Henion, K. E. & Kinnear, T. C. (1976). Ecological Marketing, American Marketing Association

Hines, J. M., Hungerford, H. R. & Tomera, A. N. (1987). Analysis and Synthesis of Research on Responsible Environmental Behavior: A Meta-Analysis, *The Journal of Environmental Education*, [e-journal] vol. 18, no. 2, pp.1–8, Available Online: https://doi.org/10.1080/00958964.1987.9943482 [Accessed 28 March 2021]

Huntley, R. (2006). The World According to Y: Inside the New Adult Generation, [e-book] Crow's Nest Australia: Allan and Unwin, Available Online: https://books.google.com/books/about/The_World_According_to_Y.html?id=b7RV5njJ3zcC [Accessed 21 May 2021]

Huotari, K. & Hamari, J. (2012). Defining Gamification - A Service Marketing Perspective, ACM J, 3 October 2012, Available Online: https://dl-acm-org.ludwig.lub.lu.se/doi/10.1145/2393132.2393137 [Accessed 3 May 2021]

Jackson, T. (2005). Motivating Sustainable Consumption: A Review of Evidence on Consumer Behaviour and Behavioural Change, *Sustainable Development Research Network*, [e-journal] vol. 15, Available Online: https://www.researchgate.net/profile/Tim-Jackson-2/publication/275638627_Motivating_Sustainable_Consumption_A_Review_of_Evidence_on_Consumer_Behaviour_and_Behavioural_Change/links/5c0a4444299bf139c744d1a5/Motivating-Sustainable-Consumption-A-Review-of-Evidence-on-Consumer-Behaviour-and-Behavioural-Change.pdf [Accessed 21 April 2021]

Jansson, J., Marell, A. & Nordlund, A. (2011). Exploring Consumer Adoption of a High Involvement Eco-Innovation Using Value-Belief-Norm Theory, *Journal of Consumer Behaviour*, [e-journal] vol. 10, no. 1, pp.51–60, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=57540733&site=eds-live&scope=site [Accessed 21 May 2021]

Kaiser, F. G. & Fuhrer, U. (2003). Ecological Behavior's Dependency on Different Forms of Knowledge, *Applied Psychology*, [e-journal] vol. 52, no. 4, pp.598–613, Available Online: http://doi.wiley.com/10.1111/1464-0597.00153 [Accessed 5 April 2021]

Kelman, H. C. (1958). Compliance, Identification, and Internalization: Three Processes of Attitude Change, *The Journal of Conflict Resolution*, [e-journal] vol. 2, no. 1, pp.51–60, Available Online: http://www.jstor.org/stable/172844 [Accessed 22 May 2021]

Khare, A. (2015). Antecedents to Green Buying Behaviour: A Study on Consumers in an Emerging Economy, *Marketing Intelligence and Planning*, [e-journal] vol. 33, no. 3, pp.309–329, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edselc&AN=edselc.2-52.0-84928043851&site=eds-live&scope=site [Accessed 21 May 2021]

Kilbourne, W. E. & Beckmann, S. C. (1998). Review and Critical Assessment of Research on Marketing and the Environment, *Journal of Marketing Management*, [e-journal] vol. 14, no. 6, pp.513–532, Available Online: http://www.tandfonline.com/doi/abs/10.1362/026725798784867716 [Accessed 21 April 2021]

Kollmuss, A. & Agyeman, J. (2002). Mind the Gap: Why Do People Act Environmentally and What Are the Barriers to pro-Environmental Behavior?, *Environmental Education Research*, [e-journal] vol. 8, no. 3, pp.239–260, Available Online: https://www.tandfonline.com/doi/full/10.1080/13504620220145401 [Accessed 17 April 2021]

Kotler, P., Kartajaya, H. & Setiawan, I. (2010). Marketing 3.0: From Products to Customers to the Human Spirit, [e-book] Hoboken, NJ, USA: John Wiley & Sons, Inc., Available Online: http://doi.wiley.com/10.1002/9781118257883 [Accessed 27 April 2021]

Kurisu, K. (2015). Pro-Environmental Behaviors, *Springer Earth and Environmental Science EBooks 2015 English/International*, [e-book] Springer Japan, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=cat02271a&AN=atoz.ebs9703662e&site=eds-live&scope=site [Accessed 27 April 2021]

Kurz, T., Gardner, B., Verplanken, B. & Abraham, C. (2015). Habitual Behaviors or Patterns of Practice? Explaining and Changing Repetitive Climate-Relevant Actions, *WILEY INTERDISCIPLINARY REVIEWS-CLIMATE CHANGE*, [e-journal] vol. 6, no. 1, pp.113–128, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edswsc&AN=000346172600008&site=eds-live&scope=site [Accessed 22 March 2021]

Landrum, B. & Garza, G. (2015). Mending Fences: Defining the Domains and Approaches of Quantitative and Qualitative Research, *Qualitative Psychology*, [e-journal] vol. 2, no. 2, pp.199–209, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=pdh&AN=2015-35231-005&site=eds-live&scope=site [Accessed 28 April 2021]

Lincoln, Y. S. & Guba, E. G. (1985). Naturalistic Inquiry, SAGE

Magnusson, M. K., Arvola, A., Hursti, U.-K. K., Åberg, L. & Sjödén, P.-O. (2003). Choice of Organic Foods Is Related to Perceived Consequences for Human Health and to Environmentally Friendly Behaviour, *Appetite*, [e-journal] vol. 40, no. 2, pp.109–117, Available Online: https://www.sciencedirect.com/science/article/pii/S0195666303000023 [Accessed 21 April 2021]

Malhotra, N. K. (2010). Marketing Research: An Applied Orientation, 6th Edition., [e-book] New York: Pearson Education, Available Online: http://www.ru.ac.bd/wp-content/uploads/sites/25/2019/03/407_08_00_Malhotra-Marketing-Research-An-Applied-Orientation.pdf [Accessed 23 February 2021]

McIntosh, M. J. & Morse, J. M. (2015). Situating and Constructing Diversity in Semi-Structured Interviews, *Global Qualitative Nursing Research*, [e-journal] vol. 2, p.2333393615597674, Available Online: https://doi.org/10.1177/2333393615597674 [Accessed 18 May 2021]

Meyer, S. B. & Lunnay, B. (2012). The Application of Abductive and Retroductive Inference for the Design and Analysis of Theory-Driven Sociological Research, *Sociological Research Online*, [e-journal] vol. 18, no. 1, p.12, Available Online: https://eds-a-ebscohost-com.ludwig.lub.lu.se/eds/detail/detail?vid=6&sid=ece25a9a-c041-496c-ae59-cc48bebd6a23%40sessionmgr4008&bdata=JnNpdGU9ZWRzLWxpdmUmc2NvcGU9c2l0ZQ%3d%3d#AN=edselc.2-52.0-84874719184&db=edselc [Accessed 25 May 2021]

Moisander, J. (2007). Motivational Complexity of Green Consumerism, *International Journal of Consumer Studies*, [e-journal] vol. 31, no. 4, pp.404–409, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=25233586&site=eds-live&scope=site [Accessed 28 April 2021]

Morton, L. P. (2002). Targeting Generation Y, *Public Relations Quarterly*, [e-journal] vol. 47, no. 2, pp.46–48, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=6876078&site=eds-live&scope=site [Accessed 21 May 2021]

Oblinger, D. & Oblinger, J. (2006). Is It Age or IT: First Steps Toward Understanding the Net Generation, *CSLA Journal*, [e-journal] vol. 29, no. 2, pp.8–16, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=lih&AN=22066138&site=eds-live&scope=site [Accessed 25 March 2021]

Ohr, T. (2020). Europe's Green Search Engine Ecosia Reaches Milestone of 100 Million Trees Planted, *EU-Startups*, Available Online: https://www.eu-startups.com/2020/07/green-search-engine-ecosia-reaches-100-million-trees-planted-milestone-in-fight-against-climate-crisis/ [Accessed 27 April 2021]

Palos-Sanchez, P. & Saura, J. R. (2018). The Effect of Internet Searches on Afforestation: The Case of a Green Search Engine, *Forests*, [e-journal] vol. 9, no. 2, p.51, Available Online: https://www.mdpi.com/1999-4907/9/2/51 [Accessed 26 March 2021]

Peattie, K. (2010). Green Consumption: Behavior and Norms, *Annual Review of Environment and Resources*, [e-journal] vol. 35, no. 1, pp.195–228, Available Online: http://www.annualreviews.org/doi/10.1146/annurev-environ-032609-094328 [Accessed 21 April 2021]

Pichert, D. & Katsikopoulos, K. V. (2008). Green Defaults: Information Presentation and pro-Environmental Behaviour, *Journal of Environmental Psychology*, [e-journal] vol. 28, no. 1, pp.63–73, Available Online: https://www.sciencedirect.com/science/article/pii/S0272494407000758 [Accessed 13 May 2021]

Purpose. (2019). Want Purpose-Driven Businesses? Rethink Ownership, Available Online: https://medium.com/@purpose_network/want-purpose-driven-businesses-rethink-ownership-3684b9bc3ae4 [Accessed 3 February 2021]

Reczek, R. W., Trudel, R. & White, K. (2018). Focusing on the Forest or the Trees: How Abstract versus Concrete Construal Level Predicts Responses to Eco-Friendly Products, *Journal of Environmental Psychology*, [e-journal] vol. 57, pp.87–98, Available Online: https://www.sciencedirect.com/science/article/pii/S0272494418302937 [Accessed 29 April 2021]

Renzi, S. & Klobas, J. E. (2008). Using the Theory of Planned Behavior with Qualitative Research, Available Online: https://www.researchgate.net/publication/46448255_Using_the_Theory_of_Planned_Behavior_with_Qualitative_Research [Accessed 27 April 2021]

Sachdeva, S., Jordan, J. & Mazar, N. (2015). Green Consumerism: Moral Motivations to a Sustainable Future, *Current Opinion in Psychology*, [e-journal] vol. 6, pp.60–65, Available Online: https://linkinghub.elsevier.com/retrieve/pii/S2352250X15001347 [Accessed 21 April 2021]

Saunders, M., Lewis, P. & Thornhill, A. (2007). Research Methods for Business Students, Fourth edition., [e-book] Financial Times/Prentice Hall, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=cat07147a&AN=lub.6690623&site=eds-live&scope=site [Accessed 28 April 2021]

Saunders, M., Lewis, P. & Thornhill, A. (2009). Understanding Research Philosophies and Approaches, *Research Methods for Business Students*, [e-journal] vol. 4, pp.106–135, Available Online: https://www.researchgate.net/profile/Mark-Saunders-10/publication/309102603_Understanding_research_philosophies_and_approaches/links/5804eda208aee314f68e0ad8/Understanding-research-philosophies-and-approaches.pdf [Accessed 1 April 2021]

Saunders, M. N. K., Lewis, P. & Thornhill, A. (2019). Research Methods for Business Students - Eighth Edition, 8th edition., [e-book] Pearson Education, Available Online: https://www.pearson.com/nl/en_NL/higher-education/subject-catalogue/business-and-management/Research-methods-for-business-students-8e-saunders.html [Accessed 28 April 2021]

Schubert, C. (2017). Green Nudges: Do They Work? Are They Ethical?, *Ecological Economics*, [e-journal] vol. 132, pp.329–342, Available Online: https://www.sciencedirect.com/science/article/pii/S0921800916301860 [Accessed 24 April 2021]

Schwartz, S. (1977). Normative Influences On Altruism, [e-book], pp.221–279, Available Online: https://www-sciencedirect-com.ludwig.lub.lu.se/science/article/pii/S0065260108603585?via%3Dihub [Accessed 18 April 2021]

Schwartz, S. h. (1992). Universals in the Content and Structure of Values: Theoretical Advances and Empirical Tests in 20 Countries, Vol. 25, [e-book], Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edselc&AN=edselc.2-52.0-77954025485&site=eds-live&scope=site [Accessed 21 May 2021]

StatCounter. (2021). Search Engine Market Share Held by Ecosia from July 2019 to February 2021, by Region, *Statista*, Available Online: https://www-statista-com.ludwig.lub.lu.se/statistics/1150709/ecosia-search-engine-market-share-by-region/ [Accessed 28 April 2021]

Statista. (2020). Millennials in Germany, *Statista*, Available Online: https://www-statista-com.ludwig.lub.lu.se/study/61087/millennials-in-germany/ [Accessed 28 April 2021]

Steg, L. & Vlek, C. (2009). Encouraging Pro-Environmental Behavior: An Integrative Review and Research Agenda, *Journal of Environmental Psychology*, [e-journal] vol. 20, pp.309–317, Available Online: https://www-sciencedirect-com.ludwig.lub.lu.se/science/article/pii/S0272494408000959?via%3Dihub [Accessed 7 February 2021]

Steinhorst, J., Klöckner, C. A. & Matthies, E. (2015). Saving Electricity – For the Money or the Environment? Risks of Limiting pro-Environmental Spillover When Using Monetary Framing, *Journal of Environmental Psychology*, [e-journal] vol. 43, pp.125–135, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edselp&AN=S0272494415300128&site=eds-live&scope=site [Accessed 21 May 2021]

Stern, P. C. (2000). Toward a Coherent Theory of Environmentally Significant Behavior, *Journal of Social Issues*, [e-journal] vol. 56, no. 3, pp.407–424, Available Online: https://eds-a-ebscohost-com.ludwig.lub.lu.se/eds/pdfviewer/pdfviewer?vid=3&sid=ef4eca41-4a5f-4b4b-9f49-318596ef48d7%40sessionmgr4008 [Accessed 12 February 2021]

Stern, P. C. & Dietz, T. (1994). The Value Basis of Environmental Concern, *Journal of Social Issues*, [e-journal] vol. 50, no. 3, pp.65–84, Available Online: https://spssi.onlinelibrary.wiley.com/doi/abs/10.1111/j.1540-4560.1994.tb02420.x [Accessed 12 May 2021]

Stern, P. c., Dietz, T., Abel, T., Guagnano, G. a. & Kalof, L. (1999). A Value-Belief-Norm Theory of Support for Social Movements: The Case of Environmentalism, *Human Ecology Review*, [e-journal] vol. 6, no. 2, pp.81–97, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edselc&AN=edselc.2-52.0-0033393895&site=eds-live&scope=site [Accessed 21 May 2021]

Stuckey, H. (2014). The First Step in Data Analysis: Transcribing and Managing Qualitative Research Data, *Journal of Social Health and Diabetes*, [e-journal] vol. 2, p.6, Available Online: https://www.researchgate.net/publication/273813498_The_first_step_in_Data_Analysis_Transcribing_and_managing_qualitative_research_data [Accessed 28 April 2021]

Sunstein, C. R. & Reisch, L. A. (2014). Automatically Green: Behavioral Economics and Environmental Protection, *Harvard Environmental Law Review*, [e-journal] vol. 38, no. 1, pp.127–158, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edshol&AN=edshol.hein.journals.helr38.6&site=eds-live&scope=site [Accessed 13 May 2021]

Thaler, R. H. & Sunstein, C. R. (2009). Nudge: Improving Decisions about Health, Wealth, and Happiness, Rev. and expanded ed., [e-book] New York: Penguin Books, Available Online: https://search-ebscohost-com.ludwig.lub.lu.se/login.aspx?direct=true&db=cat07147a&AN=lub.2030985&site=eds-live&scope=site [Accessed 22 April 2021]

The Ecosia Blog. (2014). Ecosia Is Now a B Corp, *The Ecosia Blog*, Available Online: https://blog.ecosia.org/ecosia-b-corporation-social-business-germany/ [Accessed 18 May 2021]

Thøgersen, J. (2004). A Cognitive Dissonance Interpretation of Consistencies and Inconsistencies in Environmentally Responsible Behavior, *Journal of Environmental Psychology*, [e-journal] vol. 24, no. 1, pp.93–103, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edselp&AN=S0272494403000392&site=eds-live&scope=site [Accessed 28 April 2021]

Van Dam, Y. K. & Apeldoorn, P. A. C. (1996). Sustainable Marketing, *Journal of Macromarketing*, [e-journal] vol. 16, no. 2, pp.45–56, Available Online: http://journals.sagepub.com/doi/10.1177/027614679601600204 [Accessed 21 April 2021]

Van Liere, K. D. & Dunlap, R. E. (1978). Moral Norms and Environmental Behavior: An Application of Schwartz's Norm-Activation Model to Yard Burning1 - Liere - 1978 - Journal of Applied Social Psychology - Wiley Online Library, Available Online: https://onlinelibrary-wiley-com.ludwig.lub.lu.se/doi/abs/10.1111/j.1559-1816.1978.tb00775.x [Accessed 5 April 2021]

Vetter, M. & Kutzner, F. (2016). Nudge Me If You Can - How Defaults and Attitude Strength Interact to Change Behavior, *Comprehensive Results in Social Psychology*, [e-journal] vol. 1, no. 1–3, pp.8–34, Available Online: https://www.tandfonline.com/doi/full/10.1080/23743603.2016.1139390 [Accessed 13 May 2021]

White, K., Habib, R. & Hardisty, D. J. (2019). How to SHIFT Consumer Behaviors to Be More Sustainable: A Literature Review and Guiding Framework, *Journal of Marketing*, [e-journal] vol. 83, no. 3, pp.22–49, Available Online: http://journals.sagepub.com/doi/10.1177/0022242919825649 [Accessed 22 March 2021]

Wynes, S. & Nicholas, K. A. (2017). The Climate Mitigation Gap: Education and Government Recommendations Miss the Most Effective Individual Actions, *Environmental Research Letters*, [e-journal] vol. 12, no. 7, Available Online: http://ludwig.lub.lu.se/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=edsswe&AN=edsswe.oai.lup.lub.lu.se.498ac395.67ec.4caf.b794.29490db09b45&site=eds-live&scope=site [Accessed 28 April 2021]

Yuriev, A., Dahmen, M., Paillé, P., Boiral, O. & Guillaumie, L. (2020). Pro-Environmental Behaviors through the Lens of the Theory of Planned Behavior: A Scoping Review, *Resources, Conservation and Recycling*, [e-journal] vol. 155, p.104660, Available Online: https://linkinghub.elsevier.com/retrieve/pii/S092134491930566X [Accessed 7 February 2021]

Appendix A: Interview Guide

“Hi, firstly we would like to express our deepest appreciation and gratitude for your participation today. Thank you so much for taking the time. We are Lea and Michelle, current students at Lund University School of Economics and Management. For our master thesis, we examine the reasons for using the green search engine Ecosia from the viewpoint of German millennials. There are no right or wrong answers. We are merely interested in hearing your personal opinion. Your participation is voluntary, and you have the right to stop and withdraw from the interview at any time. If you wish us to not use your answers, you can call or email us anytime. We would like to emphasise that the interview will be anonymous so that you cannot be identified as an individual. We are not including personal information from the interview that could reveal your identity. Any data will be handled and stored carefully. Thank you for signing the declaration of consent.”

General Questions	“Are we allowed to record the interview?” “Do you feel comfortable in the current interview environment?” “Do you have questions before we start?”
Endogenous Questions	“Why do you use the green search engine Ecosia?” “How does Ecosia usage make you feel?” “How would you describe your attitude towards green search engine usage in your own terms?” “What would be the main reward for you using a green search engine?” “Do other people in your direct environment use Ecosia? “Do you feel that people who are important to you think it’s a good idea to use a green search engine like Ecosia?”

	"Do you experience any kind of social pressure to use a green search engine?" "Would you consider green search engine usage as easy or difficult? And why?" "What is your default search engine? Why?" "How would you describe your lifestyle?"
Exogenous Questions	"Would you say you were influenced by somebody to use Ecosia?" "Are people in your direct social environment using Ecosia?"
Structural Questions	"What is your perception about the organisation?" "Are there additional aspects that induce you to use the green search engine Ecosia?"
Personal Questions	"How old are you?" "What is your nationality?"

Appendix A: Interview Guide

Appendix B: Interview Participants

Name	Age	Gender	Nationality	Interview Date.
Participant 1	26	Female	German	07/04/2021, 1.30pm
Participant 2	24	Male	German	16/04/21, 3 pm
Participant 3	28	Male	German	16/04/21, 5 pm
Participant 4	20	Male	German	19/04/21, 3 pm
Participant 5	20	Female	German	19/04/21, 5 pm
Participant 6	32	Male	German	19/04/21, 8 pm
Participant 7	24	Female	German	21/04/21, 2.30 pm
Participant 8	22	Female	German	21/04/21, 5 pm
Participant 9	25	Male	German	26/04/21, 3 pm
Participant 10	25	Female	German	26/04/21, 5 pm
Participant 11	31	Male	German	29/04/21, 1pm
Participant 12	32	Female	German	30/04/21, 1pm

Appendix B: Overview of Semi-Structured Interviews Participants