VILNIUS UNIVERSITY
FACULTY OF ECONOMICS AND BUSINESS ADMINISTRATION

MATAS GABRIŪNAS

(2nd year, Marketing and Integrated Communications)

Master Thesis

"Factors influencing a buyer's intention to purchase in "zero waste" shops."	"Veiksniai, darantys įtaką pirkėjo ketinimui pirkti „nulinio atliekų kiekio"(angl. zero waste) parduotuvėse"

Supervisor Asist., Dr. Ignas Zimaitis
(scientific degree of the supervisor, academic title, name, surname)

_____
(signature)

Date of submission of the academic paper

_____

Registration No. _____
Assessment of the academic paper

_____
(Date, assessment score, signature of the chairman of the commission)

Vilnius, 2026

CONTENTS

INTRODUCTION

Waste management has been an extremely relevant topic that has gained great importance especially in the 21st century, as it has become a notable concern for public health and environmental pollution (Wilson et al., 2015; Idumah & Nwuzor, 2019). Nevertheless, decade by decade, the amount of waste generated by companies and people continuously increases. In fact, in 2020 there have been generated 2.13 billion metric tons of solid waste worldwide, and this number is expected to grow by 75% and reach 3.78 billion by the year 2050 (Statista, 2024). One of the major contributors to the increase of solid waste is the utilization of non-recyclable packaging, which commonly uses plastics and similar materials that are not easily degradable (Dilkes-Hoffman et al., 2018). However, this is not the only source of solid waste. According to the European Commission (Harvey et al., 2002) there are several sources that produce a large amount of solid waste, such as medical centers, food stores, feeding centers, food distribution points, slaughter areas, warehouses, agency premises, markets and domestic areas.

Despite the numbers being so high and concerning, many countries still do not even have strict policies or regulations when it comes to prevention of packaging waste, and they mainly follow the obligations that general packaging prevention laws established, and that do not bring desired results for society (Tencati et al., 2016). Only in recent years some legislations and strategies are starting to be implemented, alongside some models which are proposing some solutions on how to solve the excessive waste produced from packaging (Trubetskaya et al., 2022; Idumah & Nwuzor, 2019). This being said, it does not mean that the concern is not present. Some studies even suggest that it will be imperative to adapt some strategies in order to prevent solid food waste from becoming too dangerous (Song et al., 2015), and that it is necessary to educate consumers about the environmental repercussions that the current waste management system brings (Filimonau and Gherbin, 2017). Therefore, the topic of zero waste management is highly relevant as currently we are dealing with a big waste management problem, and we are lacking technologies and concrete actions that contribute to the improvement of the urban environment and improvement of sanitary and hygienic well-being of the population (Prelikova et al., 2022). Given the fact that waste affects our everyday lives so heavily, different movements, ideologies and concepts have arisen to prevent, or alleviate, the potential damage that a reckless waste-management strategy will cause.

A zero-waste store, is essentially a store that does not implement the use of packaging to sell their products, therefore eliminating materials such as disposable plastics in order to reduce excessive

waste in consumers' households (Bagui & Arellano, 2021). The implementation of zero-waste stores is still emerging, as there are some barriers that need to be overcome to fully develop, such as providing knowledge about the benefits of zero-waste strategy, and educating consumers about packaging disposal (Precedence Research, 2023). Nevertheless, packaging-free stores are emerging in Europe (Gordon-Wilson, 2022). The problem is that not much research was done to analyze what are the factors that lead consumers to purchase in zero waste-stores, and very few articles that did analyze these drivers focused more on situational variables, which can be interpreted as "situation cues, psychological situation characteristics, and situation classes" (Rauthmann, 2020). Essentially, situational factors are external circumstances or environmental influences that impact behavior, thoughts, or emotions (Drew, 2023). On the other hand, there are dispositional factors, which are inherent personality traits, beliefs, or temperament that affect behavior and reactions across different situations (C. Drew, 2023). For example, Sang & Han (2022), recognizing the fact that zero-waste shops are a new and emerging phenomenon, analyzed what are the barriers that affect purchasing intention, suggesting that product unavailability, environmental values, risk perception, and tradition are factors that affect purchasing intention in zero-waste shops. Another study stated that it is important to target zero-waste recognition and attitudes towards eco-friendly products to improve zero waste behavior (Choi et al, 2022). It is important to say that there already are some studies that tried analyzing the impact that some dispositional variables have on factors such as intention to purchase from package free shops, intention to purchase green products, intention to indulge in pro-environmental behavior (Gordon-Wilson et al., 2022; Duong, 2022; Hermes et al., 2022; Sun et al., 2018). However, there still is a lack of analysis of what are the leading dispositional factors determining purchasing intention zero-waste shops, especially given the recency of the movement, so there still is a lot to be discovered and proposed (De Canio et al., 2024).

The aim of the paper is to analyze what are the factors that influence a buyer's intention to purchase in "zero waste" shops.

The objectives of the paper are the following:

- Analyze the concept and definitions of zero-waste shops, observing what other alternative models can be proposed.
- Analyze the concept of intention to buy and models explaining the intention to buy goods.
- Present what different types of statement and variables have been previously utilized to study the impact that these factors have on the intention to purchase in zero-waste shops.

- Based on previous research and findings, select and develop an appropriate research methodology to analyze what factors have impact on the intention to purchase in zero-waste stores.
- Collect and analyze the data needed to determine what factors have impact on the intention to purchase in zero-waste stores.
- Based on the results and findings of the study, provide some theoretical contributions on this thesis' topic, and develop valuable suggestions and insights that companies could use to understand what factors need to be targeted for customers to purchase in their zero-waste shops.
- Provide limitations and suggestions for future research

1. LITERATURE ANALYSIS

1.1 Definition and concept of "zero-waste"

"Zero waste" is a term that was first introduced by Paul Palmer in the '70s (Zaman & Ahsan, 2019). It mainly takes into account the idea that the resources in this world are finite, therefore it is necessary to find some alternatives in order to not create environmental damage through solid and packaging waste (Song et al., 2015). When it comes to this paper's topic, which highlights the importance of "zero waste" ideology in physical grocery stores and shops, the concept of "zero waste" refers to the intention (and action) of stores to "renounce to the utilization of disposable plastic packaging for the entire product range" (Beitzen-Heineke et al., 2017). Essentially, it aims to make consumers of shops utilize reusable packaging practices instead of purchasing packaged products (Beitzen-Heineke, 2017). An example of this practice could be taken by the bring your own bag concept (BYOB), where shoppers utilize their own bags to the stores instead of utilizing plastic packaging (Nguyen, 2022). Previous research already studied a similar concept, where a large focus was put on what leads consumers to purchase from stores that used environmentally friendly packaging (Lan et al., 2023; Popovic et al., 2019). Those papers provided some valuable insights by suggesting which factors lead people to purchase products with environmentally friendly packaging, which are demographics, consumer attitudes, knowledge about the environmental effects of packaging, visual designs, functionality, cross-cultural differences, and affordability (Popovic et al., 2019); and also provided some valuable suggestions for retailers that they should target specific customer segments by increasing their knowledge and awareness about eco-friendly packaging benefits (Lan et al., 2023). However the topic of zero waste is a much broader and more complex topic, and it affects socio-economic, political, environmental, and technological aspects and has many stakeholders (Song et al., 2015), therefore, to be successfully implemented, it requires a broader intervention. It is also important to mention that some papers that deal with zero-waste topic also suggest implementing the use of different packaging materials for retail stores (Chebotarova et al., 2024), however, in the context of this paper, zero waste stores are intended as stores that do not use packaging at all, as suggested by authors like Prelikova et al. (2022). The reason behind the zero-waste movement, is the perception that its implementation might bring several benefits to society, which, according to Pietzsch et al. (2017) article, can be classified and affect four different areas: benefits for the community, economic and financial benefits, environmental benefits, and benefits for stakeholders and the industry. Some companies have already started adhering to the idea that unnecessary packaging, specially related with plastic, should be avoided and bypassed by other alternatives, such as the use of a no package, or "zero

waste" system, which will provide an immense benefit to waste reduction and environmental improvement (Zaman, 2022). Given its nature, the zero-waste strategy can be considered as one of the "quickest, simplest, and most cost-effective" strategies that can be utilized in order to establish a "sustainable, resilient, and prosperous world for future generations" (Bagui & Arellano, 2021). The problem is that even though people support the zero-waste concept of purchasing from packaging-free shops, most people believe that there are not enough adequate facilities that support and promote this type of behavior (Mulia & Shihab, 2023; Erdélyi, 2022). In many cases, authors also extend zero-waste concept and meaning to a broader dimension, where they consider "zero-waste" more as a lifestyle that not only applies to shopping, but also to the use of materials and goods, and their disposal (Bogus et al., 2021). Hashim et al. (2018), proposes that this movement that is trying to solve waste management problems can be dealt with and tried to be solved on an individual, family, community, and national levels. Even though this movement, or lifestyle, has gained more popularity in the last few years, it is still believed that the products proposed today by shops do not meet the zero-waste expectations, as product durability, packaging, and repairability is not good enough (Vinkóczi et al., 2024). It is also important to mention that zero waste strategy does not solely focus on solving packaging matters, which is only one of the components that this movement touches: other application areas, such as industrial waste, e-waste, and food waste are also very relevant for this topic (Song et al., 2015). However, given the title of this topic, this paper will focus on the packaging dimensions, as it will measure what leads consumers to purchase in stores that renounce the use of packaged goods.

Despite this, it is also important to mention that "zero waste" movement is not the only concept and pro-environmental movement that has been very impactful and popular during these last years. These initiatives are also facilitated by the usage of social media platforms which invite people to behave in an eco-friendlier manner (Fernandez et al., 2017). One of the main concepts and that have been relevant during the latest years has been the "Circular-Economy" ideology, where it is believed that waste can be reduced by maximizing the infinite natural resources/energy to create output, products or services (Korhonen et al., 2018). Another popular concept that proposes a solution for waste management is the "Waste-to-Energy" movement, where it is proposed that some waste "constituents are well suited for separate collection and recycling or biological treatment" that can go through a process of incineration to be utilized as a renewable source of energy (Brunner & Rechberger, 2015). It is also important to mention that there are also regional, or national level movements, such as the "zero-km" movement. The term zero-kilometer, in this instance, refers to the type of economy where the product is marketed in the same area of their production (Panlaqui & Abad, 2024). Panlaqui & Abad (2024) argue that this movement refers to

the improvement of the environment, as shops, restaurants or any other entities who adhere to the zero-km movement shorten distances of food transportation (reducing carbo-emissions), promote the regional agri-food heritage, lower prices, and guarantee fresh, healthy, and seasonal products. In either case, authors argue that it is not realistic to achieve bigger goals only on an individual level, therefore it is important to set expectations and actions to the collective, the community and the institutions as well (Schlosberg, 2020).

1.2 Intention to purchase and theoretical models

The definition of intention can be taken from the theory of planned behavior and stated as an individuals' subjective ability to perform a certain action (Ajzen, 1991; Ajzen & Fishbein, 1975). Additionally, Ajzen & Fishbein (1975) suggest that the behavior of any person depend on their intention, or simply the intention to be considered as an important prerequisite for behavior. Another very important model that analyzes purchasing intention, and behavior, is the Five stage model of consumer behavior developed by Kotler & Keller (2012). According to the authors Kotler & Keller, the consumer decision journey is divided in 5 stages:

- Need recognition, also known as problem recognition. In this stage it is important for companies to identify the need and try to satisfy it (Qazzafi, 2019).
- Information research, where consumer searches for information before buying a product, also considering the past experiences towards the product (Qazzafi, 2019). Kotler & Armstrong (2017, p. 156) further present what could be the potential sources of consumer information, which, according to the authors can be classified in personal sources, commercial sources, public sources, and experimental sources.
- Evaluation of alternatives, in which the consumer, after collecting information about the product, ranks the product and brand compared to alternative options he/she has encountered (Qazzafi, 2019).
- Purchase decision, which happens after the consumer has finished evaluation process and decides with product to go for (Qazzafi, 2019).
- Post-purchase decisions, which are especially important if the companies want to achieve consumer retention and brand loyalty (Qazzafi, 2019).

Purchase intention is a variable that is widely and often used my numerous marketing and non-marketing related research to predict consumers' behavior, therefore it is usually studied as a

dependent variable (Wright & MacRae, 2007). It has also been utilized to measure what is the consumers' intention to purchase green products, or purchase goods from shops that do not use packaging. Taking into consideration that the topic of this paper is to understand what are the factors that affect a buyers' intention to purchase zero-waste stores, it is crucial to underline its importance and report previous findings. While there is no universally accepted "intention to purchase from zero waste shops" scale, it is important to mention that there are numerous scales that analyzed intention to buy green products, therefore they are very similar and could potentially be transferred adapted to zero-waste store sphere. As previously mentioned, most of the times the intention of green purchasing, or intention to buy zero waste products, is analyzed through Theory of Planned Behavior, therefore most of the research has measured what impact attitudes and social norms have on this relationship (Choi & Johnson, 2019; Yadav & Pathak, 2016; Senger & Özülkü, 2018).). Additionally, multiple authors have analyzed what influence does product packaging have on intention to purchase items, however very few researchers have analyzed this impact in the context of packaging free, ore zero waste, stores (Senger & Özülkü, 2018; Mulia & Shihab, 2023; Gordon-Wilson et al., 2022).

In previous studies there have been several famous models that have been utilized in order to predict consumer behavior, in this case, the "intention to purchase", or "intention to buy". Given that this thesis will also measure what factors affect intention to purchase in zero-waste shops, it is important to familiarize with them. One widely used model to analyze this concept was developed by Ajzen, (1991) and is called the TPB (Theory of Planned Behavior), and it is a model that improved the previously developed theory proposed by Fishbein and Ajzen (1975) which was is called TRA (Theory of reasoned action). According to the authors Fishbein and Ajzen (1975), there are two main factors that affect peoples' intention to perform a certain behavior, which, in relation to this paper, is intention to purchase. These factors are:

- Attitudes, which can be considered as our personal positive or negative evaluation of a particular behavior.
- Subjective norms, which can be defined as the person's perception that most people who are important to him think he should or should not perform the behavior in question (M. Fishbein & I. Ajzen, 1975).

Ajzen (1991) added another factor affecting that was found to be a significant driver in predicting behaviour, and included in the model the following variable:

- Perceived behavioral control, which can be defined as "the extent to which a person believes the behaviour is under his control" (Trafimow et al., 2002), and it can directly be directly utilized to predict behavioral achievement (Ajzen, 1991).

When it comes to this topics paper, some authors utilized or took inspiration from the TPB model in order to analyze topics related with intentions tied with zero-waste behavior, however such articles usually analyze the general concept of what leads consumers to engage in a zero-waste lifestyle (Botha & Wiese, 2024; Mustafa et al., 2023; Săplăcan & Márton, 2019), instead of analyzing whether these factors (attitudes, subjective norms, perceived behavioral control), have impact on the intention to purchase zero-waste products. It is worth mentioning that there are models that study intention to purchase green products with the Theory of Planned Behavior (Choi & Johnson, 2019), however, once again, green products are not the exactly the same concept as this research topic, which relates to zero waste shops' products.

Another interesting theoretical model that was utilized to analyze intention to purchase or adopt a zero-waste lifestyle, especially given its innovative nature, was the IRT (Innovation Resistance Theory), formalized firstly by Ram (1987) and refined again by Ram and Sheth (1989). According to the authors, there are two types of barriers that consumers face when they must face some innovative change, which are:

- Functional barriers, which can be considered as the barriers "more likely to arise if consumers perceive significant changes from adopting the innovation", and are composed by "usage barriers, value barrier, and risk barrier" (Ram & Sheth, 1989).
- Psychological barriers, which can be defined as barriers that are "often created through conflict with customers' prior beliefs", and are divided into "tradition barrier, and image barrier" (Ram & Sheth, 1989).

Even though the original model was developed and proposed almost 30 years ago, authors believe that it is still possible to apply it today (Nikiforova et al., 2024). For example, Sang et al. (2022) analyzed what effects these previously mentioned barriers have on the consumers' intention to purchase zero-waste products, adding "perceived environmental responsibility" factor as a moderating variable for their study. Another study that took inspiration from IRT model to study the phenomenon of zero- waste and sustainability perception was performed by Vinkóczi et al. (2024), as they also analyzed examined the relationship with the purchase of zero waste products.

The norm activation theory (NAT) is also a theoretical model, proposed by Schwartz (1977), that is not only utilized in order to measure purchasing intention, but also widely used to analyze

consumer behavior in the pro environmental behavioral intention sphere. According to Schwartz (1977), the core of the model is the personal norms factor, which the author describes as feeling of moral obligation. For example, in the eco-friendly apparel industry, personal norms have a big effect in predicting the intention to purchase eco-friendly products, given that consumers fell morally obligated to do it (Kim & Seock, 2019). Very often, authors implement the use of personal norms to study the mediating or moderating effect of relationships between variables (Onwezen et al., 2013). The NAT model is often used as a complementary piece alongside the TPB or TRA, as from previously performed research it is believed that NAM–TPB model can best explain pro-environmental behavior (Onwezen et al., 2013), and the personal norms factor can aid to develop intentions and moderate its relationship with subjective aspects (Setiawan et al., 2020). For example, Setiawan (2021) confirmed that personal norms are a predictor for waste sorting intention. More importantly, it is also believed that these norms are a very important antecedent when it comes to the intention of adopting a zero-waste lifestyle (Sajid et al., 2024). The NAT model has not been widely used in relation to behavioral purchasing intention related to zero-waste stores, however it is a theoretical model that is often present in models that try to measure purchasing intentions.

Additionally, another model worth mentioning which is often tied to the sphere of pro-environmental behavior, is the Value-Belief-Norm Theory (VBN), developed and proposed by Stern et al. (1999). Even though it is not directly related to the concept of intention to purchase, it still presents some very interesting and important findings, which correlate with this papers' topic, therefore zero-waste. Stern (2000) identified 3 different types of antecedents of pro-environmental behavior which, according to Canlas et al. (2022) consisted of and could be classified in:

- Attitudinal, which included general environmentalist predisposition, behavior-specific norms and beliefs, non-environmental attitude, and perceived costs and benefits for action.
- Personal capabilities, which encompassed literacy, social status, financial resource, and behavior-specific knowledge and skills.
- Contextual factors, which included costs and rewards laws and regulation, available technology, social norms, and expectations, supportive policies, and advertising.
- Habits

The VBN theory also is often utilized and tied with the TPB, and some studies even argue that the VBN model is an integrated framework of Schwartz's norm activation model (NAM) mentioned above (Raghu & Rodrigues, 2022). Utilizing VBN theory, it was discovered that it is possible to implement some techniques in order to promote green behavior intentions among different

stakeholders, which consist of increasing knowledge, communicating responsibility and efficacy, and continuously strengthening implementation strategies with the use of follow-up techniques (Wynveen et al., 2015). Mamun et al. (2024) implemented the use of the VBN theory and discovered the two major drivers towards food waste reduction were attitudes and personal norms, it would be interesting to analyze whether these findings would be supported also in the context of intention to purchase from zero-waste stores.

Lastly, another important model that implements the use of dispositional characteristics and their impact on green behavioral intentions is the Big-Five personality traits model (Goldberg, 2019), introduced firstly by Costa & McCrae in 1999 with the name "Five-Factor theory of Personality" (FFT). According to Costa & McCrae (1999) there are five distinct basic tendencies and characteristics adaptations, presented in table 1., which the authors present, define, and differentiate as follows:

Table 1.

Basic tendencies	Characteristic adaptations
Neuroticism (a tendency to experience dysphoric affect – sadness, hopelessness, guilt.	Low self-esteem, irrational perfectionistic beliefs, pessimistic attitudes.
Extraversion (a preference for companionship and social stimulation).	Social skills, numerous friendships, enterprising vocational interests, participation in team sports, club memberships.
Openness to experience (a need for variety, novelty, and change).	Interest in travel, many different hobbies, knowledge of foreign cuisine, diverse vocational interests, friends who share tastes.
Agreeableness (a willingness to defer to other during interpersonal conflict).	Forgiving attitudes, belief in cooperation, inoffensive language, reputation as a pushover.
Conscientiousness (strong sense of purpose and high aspirational levels).	Leadership skills, long-term plans, organized support network, technical expertise.

Source: Costa & McCrae (1999).

While there are some authors that suggest that this model is lacking other additional dimensions (Ashton & Lee, 2007), or that it is not an appropriate model if someone wants to understand underlying factors that explain a certain dimension (McAdams, 1992), it is still widely accepted by a big number of psychologists that these 5 personality dimensions capture the most important, basic individual differences in personality traits and that many alternative trait models can be

conceptualized in terms of the Big Five structure (Soto & Jackson, 2013). This model has been implemented and utilized in the past in the green behavioral intentions field (Duong, 2022), or simply when it comes to measuring intention to purchase (Iqbal et al., 2021). However, despite its popularity, there still has not been developed a paper which analyzes the impact that the Big-Five personality traits have on the intention to purchase from zero-waste shop. For this reason, it would be interesting to analyze this topic in this paper, to present some novel findings and provide suggestions for potential marketing actions.

1.3 Big-Five dispositional variables

1.3.1 Openness to experience

Openness to experience is one of the five "Big Five" personality traits (Goldberg, 2019) variables that are often utilized in different conceptual models in order to measure an individual's personality in relationship with different variables. It can be defined as the way in which a person deals with novel stimuli, hence concerning an individual's preference for variety and novelty (Woo et al., 2014). Individuals who are highly open have a broad rather than narrow range of interests, are sensitive to art and beauty, and prefer novelty to routine (Soto & Jackson, 2013). Therefore, this variable relates to "the number of a person's interests and the extent to which the person pursues those interests" (Tsao & Chang 2010). Surprisingly, the big 5 model and its traits, including openness to experience, have not been used in order to understand what relationship these variables have with the intention to purchase from zero-waste stores, or with the intention to indulge in zero-waste lifestyle at all. Previous authors only present few articles that either measure the big 5 variables and their relationship with environmental concern (Hirsh, 2010), or select a few of the variables that have been inserted in study to measure green behavioral intention topics, including intention to purchase from package-free stores (Duong, 2022; Sun et al., 2018; Gordon-Wilson et al., 2022), which, however, have provided conflicting results.

Nevertheless, there are a few studies that analyzed whether openness to experience had an impact on green behavioral intention. For example, in one research it was analyzed whether openness had an impact on the likelihood of purchasing from packaging-free shops, providing negative results, and, therefore, no valuable conclusions (Gordon-Wilson et al., 2022), supported by another research suggesting that concluded that openness to experience has a negative attitude towards

green behavior (Duong, 2022). Other studies also performed similar research; however, they provided conflicting conclusions, stating that openness does indeed have a positive effect on the intention to buy green products (Sun et al., 2018), and that openness to experience can be considered as an antecedent of pro-environmental behavior (Busic-Sontic et al., 2017). The second category of authors further support the relationship between openness to experience and environmental concern by stating the open people tend to have a broader perspective when it comes to ecological themes, which incentivizes them to be more environmentally aware (Hirsh, 2010). Even though openness to experience is a variable that has not been analyzed extensively in the environmental sphere, nevertheless it has been studied as an antecedent of predicting intention to purchase behavior. Also in this case, the impact that openness has on the impact to purchase has different and conflicting results: some studies conclude that there is no significance between the two variables (Iqbal et al., 2018), whilst others suggest the opposite, stating that openness to experience can be considered as a predictor of intention to buy (Iqbal et al., 2021). Given the lack of scientific studies discussing this variable in the zero-waste sphere and presence of conflicting findings, it would be interesting to observe and analyze whether openness to experience could have impact on intention to purchase from zero-waste shops.

1.3.2 Neuroticism

Neuroticism, also commonly referred to as "emotional stability", can be defined as the "ability to cope with emotions", more specifically "tendency to be in a negative anxious emotional state" (Akbar et al., 2020). Therefore, it can be stated that neuroticism relates with emotional instability, anxiety, and vulnerability to stress (Lau & Jamaluddin, 2024). Individuals who are highly neurotic are more likely to experience negative emotions, such as anxiety, depression, and irritation (Soto & Jackson, 2013). Tsao & Chang (2010) state that neuroticism is "the number and intensity of stimuli needed to spur a person's negative emotion". People with a higher level of neuroticism tend to not pursue opportunities to learn new things, be more indulged in impulse-purchases, and being less brand loyal (Jeong et al., 2021). Essentially, extraversion is a variable that relates and represents a person's subjective well-being (Hayes & Joseph, 2003). As with the previously mentioned Big Five variable, Neuroticism dimension has also been used in few studies related to environmental-friendliness, or green-behavior (purchase) intention. For example, some authors suggested that Neuroticism has negative impact when it comes to purchasing non packaged goods

(Duong, 2022), and that it has no significant associations with either pro environmental attitudes or behaviors (Soutter, 2020). Therefore, some authors conclude that neuroticism is not a valid predictor of willingness to purchase from physical in-store locations, as the two variables are not correlated (Hermes et al., 2022). As with the previous case, however, there are also conflicting results, stating that neuroticism does in fact have a positive impact on socially responsible behavior (Akbar et al. 2020). Moreover, some authors state that there is a relation between neuroticism and waste prevention behaviors, which could be explained by the fact that highly neurotic people who are concerned for the environment and themselves, might feel anxious thinking about the outcomes of environmental degradation (Karbalaei et al., 2014). Therefore, anxiety about the consequences of negative environmental outcomes could be considered as one of the main drivers hat incentivizes neurotic consumers to engage in pro-environmental behavior (Farizo et al., 2016). It is also highlighted that people who display a higher level of neuroticism tend to display a higher level of environmental concern, as they have a more egoistic concern regarding potential consequences of environmental degradation (Hirsh, 2010). Therefore, it is still interesting to observe whether this variable would or would not have an impact on the intention to purchase from zero-waste shops. When it comes to the implementation of the use of the Neuroticism variable in the "intention to purchase" models, most often this construct is studied as a moderating variable (Jeong et al., 2021), rather than an independent variable. This being said, it would be interesting to observe and measure in this paper what relationship neuroticism would have with the intention to purchase from zero-waste shops, as this topic is still unexplored and lacking findings in scientific literature.

1.3.3 Extraversion

Extraversion is also one of the five traits in the big five personality traits model and has also been utilized by other theories and models. It can be defined as "a behavior where someone enjoys being around people more than being alone", therefore making people with high levels of extroversion more sociable, confident, and able to see the world in a positive light (Akbar et al. 2020). Essentially, it can also be considered as the degree of at ease feeling that a person perceives about his relationship with others (Tsao & Chang, 2010). Highly extraverted individuals tend to be mote are assertive and sociable, rather than quiet and reserved (Soto & Jackson, 2013). This construct is tied to sociability, assertiveness, outgoing and positive emotionality (Lau & Jamaluddin, 2024).

It mainly relates to the concept that people with high extroversion are more sociable, talkative, and assertive (McCabe & Fleeson, 2012). This variable is relevant because it was proposed extraversion can be linked to more pro-environmental actions, as high extroversion is often linked with high self-expression and low fate control (Soutter et al., 2020). Additionally, it was suggested that people with high extroversion, given the fact that they are more socially active, prefer to shop in in-store locations, rather than in online environment (Hermes et al., 2022). Previously it was proposed that extraversion has both impact on attitude towards green buying and green buying intention as well (Sun et al., 2018). Therefore, some authors conclude that extroversion can be a valid variable able to predict sustainable consumption behavior (Akbar et al. 2020). However, there are also findings suggesting that this variable does not have any significance in predicting a person's green behavior (Gordon-Wilson & Modi, 2015), therefore it remains unclear whether this variable can or cannot be take into consideration when predicting a person's intention to indulge in green behavior actions, being either intention to purchase green products or intention to live a green lifestyle. As with the previous cases with Big Five construct, the extraversion variable has not been utilized often in the context of green behavior intentions, so there still is a lack of studies, findings, and conclusion of how extraversion affects intention to purchase from zero-waste stores. Nevertheless, it is a dispositional variable that has been used in multiple studies related to the study of purchasing intention, usually in online environments, and often it was considered a significant predecessor whilst purchasing goods online (Iqbal, 2021). For this reason, it would be interesting to analyze and find out whether this variable has also significance and impact on consumers' intention to purchase packaging-free products from physical stores, to see if findings are consistent with previous research, stating that extroversion has a positive impact on the willingness to purchase from physical in-store locations (Hermes et. al., 2022).

1.3.4 Agreeableness

Agreeableness can be defined as the "degree with which a person complies with rules established by others" (Tsao & Chang, 2010). Individuals who are agreeable tend to be cooperative and polite, rather than antagonistic and rude (Soto & Jackson, 2013). Given the fact that it has an empathetic concern for others nature, it was hypothesized that it is a variable that could be used to predict green behavior intentions (Swami et al., 2011). This is hypothesized because agreeable individuals are people that are tolerant, kind, cooperative, commiserative, and like to help others, meaning that

they are likely to participate in eco-friendly behavior, given that it is considered kind and socially acceptable (Sun et al., 2018). However, one of the few studies conducted utilizing this variable in the zero-waste context, concluded that agreeableness had no significance or impact when it comes to predicting intention to purchase from packaging-free shops (Gordon-Wilson et al., 2022), however the author himself noticed that, given the recency of the topic and conflicting result from past research, it would be advisable to perform another, more robust study with more robust personality measures. Supporting these findings was an article written by Sun et al. (2018), where agreeableness was found to have no significance when it comes to the intention to purchase green goods, but it did, however, have a positive impact towards attitudes towards green products. On the contrary, in other research, it was concluded that agreeableness could in fact be a factor when it comes to predicting consumers' intention to purchase in-store items, as that environment reflects their behavior, which is considered interpersonal and cooperative (Hermes et al., 2022), and it was also found that it is a significant predecessor having impact on intention to buy green products (Duong, 2022). Some studies further suggest that agreeableness is highly interrelated with environmental concern, as agreeable individuals tend to be more concerned about the welfare of others, which results in them supporting environmental motives (Hirsh, 2010). Therefore, as it can be observed, the findings regarding whether agreeableness has impact on intention to purchase in zero waste, or package-less product stores is quite an untouched area that lacks information and provides contrasting conclusions and recommendations. Therefore, for this reason, it would be interesting to observe whether this variable does have an impact and can provide some valuable suggestions.

1.3.5 Conscientiousness

Conscientiousness is the fifth and final variable of the Big-Five personality trait model. This variable can be defined as the intensity with which a person tends to pursue his goal, therefore taking into consideration how cautious, tenacious and organized a person is (Tsao & Chang, 2010). Individuals who score a higher value of conscientiousness tend to be more task-focused and orderly, rather than distractible and disorganized (Soto & Jackson, 2013). Usually, people who are more cautious tend to have the necessity to create a plan, and then devote themselves to it, whilst less cautious people can be considered more careless (Iqbal, 2021). The main traits that relate to conscientiousness measures are organization, reliability, responsibility, and self-discipline (Lau &

Jamaluddin, 2024). As in the same case as extraversion, it was found out that conscientiousness does have a positive impact when it comes to buying green products and having positive significant attitudes towards green products (Sun et al., 2018).Not only that, conscientiousness was also found to be an important and significant predictor when it comes to purchasing in package-free shops, because individuals who display high level of conscientiousness are more organized, careful, vigilant, and self-disciplined whilst purchasing from zero-waste shops (Gordon-Wilson et al., 2022). Moreover, conscientiousness was found to be also an antecedent when it comes to intention to purchase from physical in-store locations (Hermes et al., 2022). It was also discovered that conscientiousness had direct and positive effect when it comes to predicting waste management behavior, and some authors suggest that this is due to the fact this variable is highly associated with intellectualism and tendency to behave to the dictates of conscience (Swami et al., 2011). In their article, Swami et al. (2011) suggest that people who display high level of conscientiousness can be self-disciplined, organized, and show a high need for achievement in relation to their waste management behaviors. Moreover, other authors further suggest that highly conscientious individuals tend to have more favorable views towards eco-friendly behavior as they tend to be more responsible and careful towards policies, and act in the benefit of the whole environment (Li et al., 2023). As can be seen, although this variable, like the other Big-Five model factors, has not been deeply analyzed in a context relating with what drives people to purchase from zero-waste shops, compared to the remaining four, this one display more consistent results when it comes to having positive impact in green behavioral intention. It would be interesting to study and analyze whether it would also result in being a significant antecedent to the intention to purchase from zero-waste stores.

1.4 Other variables

1.4.1 Environmental Awareness

Environmental awareness, also known and presented as "environmental consciousness", or "environmental concern", is a variable that has often been presented in previous studies related with green behavior intentions, as it is thought to influence individuals' attitude towards green products (Huda et al., 2023), and also affect their behavior when it comes to purchasing from zero-waste shops (Setiawan & Rizkalla, 2024; Zhuang et al., 2021). The topic of environmental concern refers to a general attitude towards environmental protection (De Canio et al., 2024). In broad

terms, environmental awareness can be defined as "attitude regarding environmental consequences of human behavior" (Ham et al., 2016), and it is considered to be one of the biggest environmental factors when it comes to analyzing personal characteristics of green marketing (Zhuang et al., 2021). The reason behind its importance is that it is able to create and promote new ways of positive action towards the environment among people to achieve environmental sustainability of the world (Mravcová, 2019). When consumers are knowledgeable about the environment, they for positive attitudes to shop at stores that do not implement the use of packaging, which results in being harmful for the environment (Setiawan & Rizkalla, 2024). As per the findings, environmental attitude was found to have a significant impact on the consumers' attitude towards green products (Huda et al., 2023; Februadi et al., 2022; Senger & Özülkü, 2018). Of these two studies, only the one performed by Huda et al. (2023) measured the direct impact that environmental knowledge had towards the intention to purchase the products in shops that do not employ the use of packaging, suggesting that people who are more environmentally aware tend to purchase eco-friendly products, as they realize that doing so they help the environment by "preventing climate change, reducing carbon footprints, and reducing the waste of natural resources". Additionally, some authors suggest that it is very important for companies to implement some types of environmental awareness campaigns, utilizing, for example, podcasts, webinars, to communicate environmental policies and raise environmental knowledge (Setiawan & Rizkalla, 2024), or simply by developing appropriate training and guidance programs in schools, workplaces and at home (Nguyen, 2025). This being said, there is a big lack of information about the relationship between these variables when it comes to the zero-waste sphere. Currently, there are only studies suggesting that environmental awareness can be considered as a predictor when purchasing environmentally friendly products (Khaleeli & Jawabri, 2021), conducted especially in the automotive industry (Okada et al., 2019; Xu et al., 2019), or in the organic food sphere (Ahmed et al., 2021; Parashar et al., 2023), therefore the concept of what lead customers to purchase in shops that do not utilize packaging for their products, is still lacking findings and information. Moreover, the above-mentioned studies have been conducted in different regions of the world, hence it would be interesting to observe whether environmental awareness impact remains consistent with the suggestions and finding proposed by previous researchers also on the European context and landscape. Being environmentally aware does not necessarily equate to behaving in an environmentally friendly manner (Ham et al., 2016), so it is still relevant to observe whether intention to purchase zero-waste products is influenced by the degree of how environmentally concerned people are. This is an interesting topic to discuss because, as previously mentioned, studies suggest that people's environmental concern usually tends to be moderately-

high, but their environmental actions do not remain consistent with their attitudes (Iizuka, 2016). Despite this, given the strong relationships between environmental issues concern and intention to purchase green products, some authors suggest that it would be highly important for marketing agencies to that work with packaging-free shops, to focus and highlight on the environmental issues in their campaigns in order to achieve good results and sales (Szász et al., 2024). Lastly, it is also worth mentioning that environmental concern can also be measured as a moderating variable in green behavioral intention topics, as it supports pro-environmental purchase intentions and amplifies trust in sustainable producers-purchase intentions path (De Canio et al., 2021).

1.4.2 Motivation

Most often, in literature there is a distinction between different types of motivation, as authors suggest that there are different motivational factors driving consumers to perform a certain action. Locke & Schattke (2019), provide some definitions and main goals that each motivational factor brings, which are presented in the following table (Table 2.):

Table 2.

Motivation type	Definition	Core aspect & goal of motivation
Intrinsic motivation	Liking or wanting an activity for its own sake.	Enjoyment & pleasure from the experience
Extrinsic motivation	Doing something in order to get some future value.	Outcomes & attainment of valued outcomes
Achievement motivation	Recurrent concern for a standard of excellence.	Achievement & meeting a standard, improvement, skill building

Source: Locke & Schattke (2019)

Essentially, it can be said that Intrinsic motivation is the engagement in a certain behavior that is inherently satisfying or enjoyable, whilst extrinsic motivation relates to performance of a certain behavior that is contingent upon the attainment of an outcome that is separable from the action itself (Legault, 2020). There are no studies of how intrinsic motivation affects intention to purchase from zero waste shops, however there are some findings in the pro-environmental behavior field that could be the basis of expanding the research in the zero-waste sphere. Some authors suggest

that intrinsic motivation is stronger and more durable factors when it comes to green behavior intentions compared to extrinsic motivation, as people who feel intrinsically motivated believe that they are doing the right thing and feel emotionally and physically rewarded doing it (Van Der Linden, 2015; Steg et al. 2016). Some studies even adopted the motivation concept towards eco-friendly topic and proposed the concept of green intrinsic motivation and green extrinsic motivation (Li et al., 2020), adapting them to studies meant to measure green purchasing intention (Lin, 2022). Green intrinsic motivation can be defined as the motivation that makes an individual perform a certain activity due to its gratifying nature, while the green extrinsic motivation refers to doing a pro-environmental because this behavior could lead to some benefits, such as rewards, approvals from others, or the avoidance of punishment (Li et al., 2020). Essentially, intrinsically motivated individuals engage in pro-environmental actions because contributing to greater good makes them feel good about themselves (Steg, 2016). When it comes to environmental sphere, some authors suggest that intrinsic motivation is important in order to increase pro-environmental behavior, and it is important for policy makers to strengthen this motivation for people who are already motivated intrinsically and try to establish this motivation for people who are not (Silvi & Padilla, 2021). For this reason, it can be assumed that intrinsic motivation is crucial variable for stable pro-environmental behavior (Steg et al. 2016), and it would be interesting to see whether this impact is also reflected on intention to purchase from zero waste stores. There are also a few studies that studied extrinsic motivation influence on pro-environmental behavior intention where it was found that extrinsic motivation can be considered as a significant antecedent (Barszcz et al., 2023). In both cases, marketing companies need to take into account both extrinsic and intrinsic motivation factors whilst developing marketing campaigns for green products, highlighting both sustainability values and eternal incentives (Hermalia & Kuswati, 2025). Despite this, the number of articles related to this matter is very little and lacking findings. For this reason, it would be interesting to include it in this paper.

1.4.3 Attitudes

Attitudes have been one of the focus points and most utilized factors when it comes to social psychology and scientific research studies (Krosnick et al., 2018), especially since it is included in the TPB (Ajzen, 1991) that was mentioned in section 1.2. From what was described previously, attitudes can essentially be defined how people personally assess a certain behavior (Rambandara

& Dilanthi, 2024). An alternative definition states that attitudes are "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor" (Eagly & Chaiken, 1993, p. 1). The reason for this antecedent being so widely used, is because it is generally accepted that attitudes often do have a very strong influence on behavior, meaning that if a person has a positive attitude towards some type of behavior, they are likely going to engage in it (Ajzen et al., 2018). Of all the previously mentioned variables, attitudes have been the ones that have been utilized the most in the context of zero-waste purchasing intention and green purchasing intention analysis. Several studies have found out that positive attitudes do influence consumers' intention to purchase from package free, or zero waste shops (Erdélyi, 2022; Senger & Özülkü, 2018), or simply to engage in pro-environmental behavior (Baba-Nalikant et al. 2023). Given the wide popularity of attitudes variable in this topic, several researchers have even adapted the attitudes scale into the "environmental attitudes" construct (Rambandara & Dilanthi, 2024; Casaló & Escario, 2018). It is also important to mention that attitudes themselves towards intentions to purchase from package free shops, can be influenced by several factors such as the experience of the shopper, their education, and familiarity with the brand (De Temmerman et al., 2023). Attitudes towards zero-waste shops have also been found to be influenced by environmental awareness, which suggests zero-waste stores to implement communication means that provide clear and concise information about environmental benefits in order to strengthen the relationship between environmental knowledge and attitudes (Senger & Özülkü, 2018). Supporting this proposal, Setiawan & Rizkalla (2024), highlight the importance of forming positive attitudes through environmental awareness campaigns, which, as a result, could increase consumers' likelihood of purchasing from zero-waste stores. In some research papers, the previously mentioned construct, environmental knowledge, is also utilized as one of the elements of the "attitudes" factor, especially because the relationship between the two is often found significant and important in the context of intention to purchase zero-waste products (Valentin, 2021).

Other studies, on the other hand, argue that even though there are positive attitudes towards green products, it does not necessarily translate to purchasing intentions (Witek & Kuźniar, 2020). This might be the reason because it was discovered that the relationship between positive attitudes and intention to purchase from package free shops is dependent on external circumstances such as geographical proximity of zero-waste stores (De Temmerman et al., 2023). Additionally, it was discovered that positive attitudes are highly related to brand recognition, suggesting that brands with higher recognition tend to have more favorable attitudes which in return helps them implement a zero-waste strategy more effectively (De Temmerman et al., 2023). This being said, it is still unclear, in the context of intention to purchase from zero-waste shops, whether attitudes

can or cannot be considered as a significant antecedent, therefore it would be interesting to discover this in this paper.

2. Research methodology

2.1 Research aim, object, problem, model & hypothesis

In this section of the thesis, the methodological part will be presented and depict what is the problem, the aim and the object, alongside the research model and the hypothesis that will be analyzed.

The aim of this thesis is to analyze which are the factors that affect a buyers' intention to purchase from zero waste shops, therefore shops that do not utilize packaging for their goods.

The object of the thesis is the impact of factors on buyers' intention to purchase from zero waste shops.

The research will have the following **objectives**:

- To develop the survey and gather data from the respondents.
- To organize and interpret the data once it has been collected.
- To describe the participants of the survey and perform the testing of the developed hypothesis.
- To present summaries of the data presented.
- To provide conclusions, suggestions, and present limitations of the research.

The problem of the thesis is that there is a lack of information presenting what are the variables that affect one's intention to purchase through zero-waste shops, and the few findings that do exist, provide conflicting results. As was presented in the literature reviews, there is big potential in gathering findings and insights that would be valuable to understand what factors are significant. Additionally, given that there has not yet been developed research which analyzes this topic though the big-five personality trait perspective, it will be interesting to implement its use to gather new findings. Therefore, the situation considered in this paper is quite unique, unexplored, and lacking concrete analysis and suggestions.

The conceptual model prepared for this thesis (figure 1) implements the use of dependent, independent and moderating variables to analyze the research topic. The independent variables are as follows:

- Neuroticism, Openness to experience, Extraversion, Agreeableness, Conscientiousness, Attitudes towards zero waste shops.

The dependent variables of the thesis are as follows:

- Intention to purchase from zero-waste shops.

Moreover, the moderating variable is:

- Type of motivation (green intrinsic or green extrinsic).

Lastly, this study also includes a mediating variable that will analyze the mediation effect between big 5 variables and Intention to purchase from Zero-waste shops:

- Environmental awareness

Figure 1.
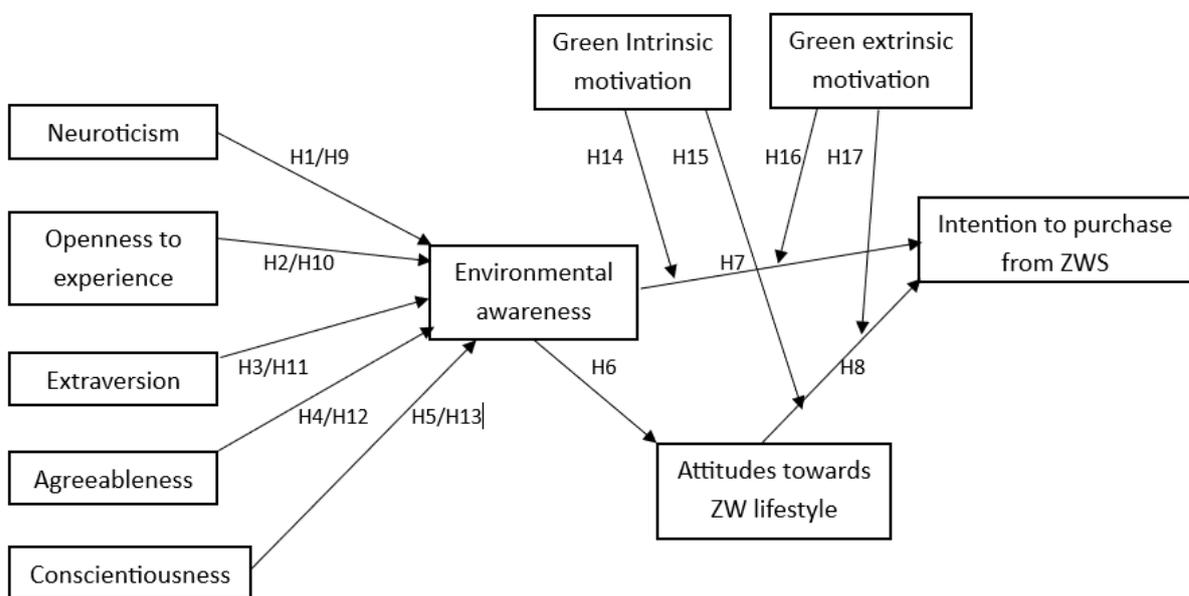
Source: prepared by the author based on research.

The following conceptual model (figure 1) has been prepared based on the theoretical analysis of factors that affect intention to purchase from zero-waste shops.

Research Hypotheses.

Neuroticism is a variable that has not been utilized often when it comes to analyzing its impact on intention to purchase from zero-waste shops or environmental awareness in general, which gives a lot of room for generating new insights and findings in this research topic. Although there are researchers that concluded that neuroticism is not a significant predictor when it comes to purchasing from non-packaged items, or that it is not even significant when it comes to predicting pro-environmental behavior (Duong, 2022; Soutter, 2020), there are also some authors that suggest the opposite, claiming that people who have higher degree of neurotic tendencies do feel the need to participate in green behavior, in order to prevent non-desired outcomes (Karbalaei et al., 2014;

Akbar et al. 2020). This relationship could exist because neurotic individuals could be concerned with the detrimental effects of pollution (Abdollahi et al., 2017; Hopwood et al. 2021). However, there are studies that highlight Neuroticism's negative impact on consumers' green initiatives, as neurotic individuals' emotional instability could weaken their motivation and confidence to indulge in pro-environmental behavior and act sustainably (Uikey et al., 2025). Therefore, based on previous researchers' findings it can be claimed that one's degree of neuroticism does have negative impact with environmental awareness. Thus, the following hypothesis was formulated:

H1. Neuroticism has a negative impact on environmental awareness.

Openness to experience is another big-five variable that has been utilized in some studies dealing with the topic of green behavior. Several previously developed the studies tend to be in line stating that people who tend to be more open to trying new things or experiences have the characteristic of also being more open to participate in pro-environmental behavior and having tendencies of having a higher degree of environmental concern (Hopwood et al., 2021; Ariana & Satwika, 2022), some suggesting even that openness is the only predictor when it comes to pro environmental attitudes (Wuertz, 2015). In fact, it could be believed that more open individuals have a broader view about nature, which could make them more aware and concerned about the environment compared to less open individuals (Hirsh, 2010). For this reason, the following hypothesis has been developed:

H2. Openness to experience positively affects environmental awareness.

The third big-five variable which will be used in the study is extraversion, or one's degree of feeling at ease around other people (Tsao & Chang, 2010). As for the previous two big-five variables, extraversion also provides some conflicting findings in the sphere of green behavioral intention predictions. Some authors claim that a higher degree of extraversion could be used to predict the intention to buy green products, especially for men (Sun et al., 2018), while other suggest that it is only significant for women, and not for men, claiming that firms should target eco-friendly campaigns to women who are more talkative and sociable (Duong, 2022). The reason behind the inconsistent findings might be due to difference of measures utilized in the studies, as also other authors highlighted the inconsistent results (Busic-Sontic et al., 2017). Despite the inconsistencies, it is believed that extraverted people would put higher emphasis in finding a solution for environmental issues, given their extroverted nature (Abdollahi et al., 2017). For this reason, it is important to observe how the extraversion variable plays a role in shaping an individual's green awareness, reason why the following hypothesis has been developed:

H3. Extraversion has a positive impact on environmental awareness.

The fourth big-five variable depicting one's tendency to be cooperative and kind to others, agreeableness, has also been utilized in some studies related to green behavior topic, as it is believed the agreeable people tend to indulge in behaviors that are socially acceptable by others (Sun et al., 2018), given that it positively shapes environmentally friendly attitudes (Busic-Sontic et al., 2017). Given that agreeableness also represents one's tendency to be more have greater concern and empathy towards others (Hirsh, 2010), it could be argued that it has a direct correlation with one's environmental concern For this reason, it is important to clarify and find out what the relationship is between agreeableness and environmental concern, reason for which this hypothesis has been developed:

H4. Agreeableness has a positive effect on environmental awareness.

The final big-five variable utilized in this study is conscientiousness, which depicts one's tendency to be more task oriented and organized. Compared to the other four big-five variables, conscientiousness presents more consistent results taking into consideration its impact with green behavioral intention and green awareness. In fact, the majority of studies do claim that conscientiousness is considered as a predictor when it comes to green behavioral intention (Gordon-Wilson et al., 2022; Sun et al., 2018), because self-disciplined, responsible and dutiful consumers tend to exhibit environmentally friendly purchase actions especially when they have a positive attitude towards green products (Duong, 2022) This is believed to happen because conscientious people tend to be more organized, task focused and willing to be more prone to adapt to an eco-friendlier lifestyle, especially in the context of waste management (Swami et al., 2011). Additionally, it can be argued that individuals who display a higher level of conscientiousness would feel a higher need to follow social guidelines and norms to incentivize environmental action (Hirsh, 2010), which could suggest that conscientious people tend to be more environmentally concerned. For this reason, it would be worthy and important to observe whether the previously proposed arguments are also reflected consistently in this paper and clarify whether conscientiousness has a direct impact on one's environmental concern.

H5. Conscientiousness positively affects environmental awareness.

It is generally believed that the more environmentally concerned a consumer is, the more they tend to have strong, firm, positive attitudes towards green product attitudes (Huda et al., 2023). In order for zero-waste shops to achieve a successful strategy, it is important to communicate and provide clear information about the benefits that a zero-waste purchasing behavior has and strengthen the

relationship between environmental awareness and attitudes (Senger & Özülkü, 2018). This relationship is important as some studies suggest that having higher environmental knowledge positively influences ones attitudes and behavior towards green behavioral intentions (Setiawan & Rizkalla, 2024). For this reason, the following hypothesis has been developed

H6. Environmental awareness has a direct positive impact on attitudes towards zero waste lifestyle

Not only has environmental awareness been studied as an antecedent to attitudes towards environment, but it has also been studied in some articles as an antecedent of green behavioral intentions, where it was found to have significant impact in predicting green behavior (Wardhana, 2022). It is important for zero-waste stores to invest effort into campaigns highlighting environmental concerns in order to achieve successful results (Szász et al., 2024). For this reason, the following hypothesis has been developed:

H7. Environmental awareness has direct positive impact on intention to purchase from zero-waste shops.

There are some authors that suggest that having strong positive attitudes towards green products can result in being willing to purchase from zero-waste stores (Huda et al., 2023; Baba-Nalikant et al., 2023). Therefore, it is important to educate consumers about environmental policies so that they could form positive attitudes towards zero-waste shopping, which, in return, could increase their intention to purchase from zero-waste shops (Setiawan & Rizkalla, 2024). For this reason, it can be hypothesized that attitudes towards zero-waste lifestyle has a positive impact when it comes to the intention to purchase from zero-waste stores, reason for which this hypothesis has been developed:

H8. Attitudes towards zero-waste lifestyle has direct positive impact on intention to purchase from zero-waste shops.

Environmental awareness has already been utilized as a mediating variable when it comes to measuring relationships in the green behavior sphere. For example, some authors suggest that environmental awareness is a variable that incentivizes green behavioral intentions (Li et al., 2023). Although a few articles have studied the relationship and links that big 5 variables have with environmental concern, it is also important to mention that the relationship between these two variables is dependent on the type of environmental topic that is being analyzed (Hirsh, 2010), and in the case of this thesis topic, it still remains unexplored. Moreover, previous literature suggests that individual personality traits have impact on individuals' environmental awareness, which, in

return, affects one's intention to engage in waste reducing behavior (Nguyen, 2025) Therefore, it is worth the mediating effect that environmental awareness construct has in the context of the big five variables impact on intention to purchase from zero-waste shops, for this reason the following hypotheses have been developed:

H9. Environmental awareness mediates the negative relationship between Neuroticism and intention to purchase from zero-waste shops.

H10. Environmental awareness mediates the positive relationship between openness to experience and intention to purchase from zero-waste shops.

H11. Environmental awareness mediates the positive relationship between Extraversion and intention to purchase from zero-waste shops.

H12. Environmental awareness mediates the positive relationship between Agreeableness and intention to purchase from zero-waste shops.

H13. Environmental awareness mediates the positive relationship between Conscientiousness and intention to purchase from zero-waste shops

There is a lack of studies which analyzes the moderating impact that motivation has in a pro-environmental relationship context. As mentioned in the literature analysis, some authors did suggest that intrinsic and extrinsic motivation could be considered as predecessors of pro-environmental behavior (Steg et al. 2016; Barszcz et al., 2023), however, it would be necessary to see whether this impact is interrelated between ones environmental awareness and intention to purchase from zero-waste shops, and ones attitudes towards zero-waste shops and intention to purchase from zero-waste shops. Moreover, majority of studies state that the relationship between motivation and green behavioral intention is usually stronger in the case of intrinsic motivation rather than extrinsic (Hermalia & Kuswati, 2025), which gives another reason to verify whether the type of motivation (extrinsic or intrinsic), really does moderate the relationship amongst these variables. For this reason, the following hypotheses have been developed.

H14. Green intrinsic motivation moderates the relationship between environmental awareness and intention to purchase from zero-waste shops, such as the relationship between environmental awareness and intention to purchase from zero-waste shops increases when green intrinsic motivation is high and vice versa.

H15. Green intrinsic motivation moderates the relationship between attitudes towards zero waste lifestyle and intention to purchase from zero-waste shops, such as the relationship

between environmental awareness and attitudes towards zero-waste shops increases when green intrinsic motivation is high and vice versa.

H16. Green extrinsic motivation moderates the relationship between environmental awareness and intention to purchase from zero-waste shops, such as the relationship between environmental awareness and intention to purchase from zero-waste shops decreases when green extrinsic motivation is high and vice versa.

H17. Green extrinsic motivation moderates the relationship between attitudes towards zero waste lifestyle and intention to purchase from zero-waste shops, such as the relationship between environmental awareness and attitudes towards zero-waste shops decreases when green extrinsic motivation is high and vice versa.

2.2 Procedure and instrument of data collection

Research method. To collect and analyze the respondents' opinion about the topic of what are the factors that affect their intention to purchase from zero-waste shops, quantitative research will be utilized. For convenience's sake, the quantitative research method selected is an online survey conducted on "Google Forms" platform and distributed to the respondents across different social media sites (Annex 1). For convenience purposes, a convenience, therefore, non-probability sampling method was selected for this study. The social media sites where consumers were reached to be able to participate in the survey were Facebook, Whatsapp, Instagram and LinkedIn.

Research Instrument. To analyze which are the factors that affect a buyers' intention to buy from zero-waste shops respondents were briefly presented about the meaning of zero-waste shops. Afterwards the respondents were presented with two filtering questions that presented one zero-waste shop and one regular shop (with packaged goods). Respondents who failed to identify the zero-waste shop were excluded from the survey. As for the demographic questions presented at the end, respondents were asked to provide their age, monthly income, and gender. In order to measure alle the remaining variables previously utilized scales were implemented and measure utilizing a likert scale which consisted of 7 points, ranging from "strongly disagree", "disagree", "somewhat disagree", "neither disagree or agree", "somewhat agree", "agree", "strongly agree", where 1 meant "strongly disagree" and 7 meant "strongly agree". The data collected was later analyzed using SPSS.

Measurement scales. The constructs that will be utilized to measure this thesis' topic are presented in table 1., which describes the name of the construct, the number of items alongside their description, Cronbach Alpha, and the source of the paper from which the variable was taken. As can be observed, all Cronbach Alpha scores have a value above 0.7, making the scale reliable for measurement.

Table 3.

Construct	Items	C. A.	Source / adapted from
Neuroticism	1. I have frequent mood swings 2. I am relaxed most of the time 3. I get upset easily 4. I seldom feel blue	0.877	Duong (2022)
Openness to experience	1. I feel amazing and exciting with the form of nature and art 2. I am willing to try the new food or foreigner food 3. I am open to new experience	0.73	Duong (2022)
Extraversion	1. It is comfortable when I am around people 2. I start conversations in most situations 3. I am willing to talk to numbers of different people at parties	0.823	Duong (2022)
Agreeableness	1. I am compassionate for others 2. I sympathize with others' emotion 3. I have a soft heart	0.84	Sun, Y., Wang, S., Gao, L., & Li, J. (2018)
Conscientiousness	1. I will try my best to complete my job 2. I will carry out my promise when I make one 3. Sometimes I can't be reliable or trusted	0.81	Sun, Y., Wang, S., Gao, L., & Li, J. (2018)
Environmental awareness	1. I am very knowledgeable about environmental issues 2. Compared to the average person, I am more familiar with issues related to the environment 3. I know how to select vehicles that produce the least carbon emissions	0.894	Nguyen (2025)
Attitudes towards ZW lifestyle	1. I like the idea of zero-waste lifestyle 2. Adopting zero-waste lifestyle is a good idea 3. I have a favourable attitude toward adopting zero-waste lifestyle	0.949	Sajid et al. (2024)
Intention to purchase from ZW shops (adapted)	1. I intend to purchase in ZWS in the near future. 2. I will try to purchase in ZWS in the near future. 3. I will make an effort to purchase in ZWS in the near future.	0.846	Botha & Wiese (2024)
Green intrinsic motivation	1. I enjoy accepting new green ideas and products	0.884	Duong et al. (2023)

	2. I enjoy solving environmental problems through green measures 3. I enjoy searching for green products that are completely new 4. I enjoy giving feedback to improve existing green products 5. I feel excited when I have green products		
Green extrinsic motivation	1. I feel motivated by the recognition I earn from people when adopting green products 2. I often think about discounts, gifts, and prizes when buying green products 3. I have to feel that I am saving something from my green purchases	0.780	Duong et al. (2023)

Sample size. Given that there are a few research that have been conducted previously to analyze similar topics to this thesis' title, to select a sample size, the average of the number of responses of previous research respondents was calculated. Gordon-Wilson et al. (2022) study collected a total of 240 respondents; Sun et al. (2018) paper gathers a total of 386 usable questionnaires; Hermes et al. (2022) collected in their study 206 responses; Akbar et al. (2020) gathered a total of 394 responses in their research; Erdélyi (2022) collected in the survey a total of 206 responses. Therefore, all the responses gathered by previous research with related topic were added up and divided by the number of research performed (240+206+386+394+206)/5=285. The sample of responses needed for this thesis' survey is 285.

3. Research Results

3.1 Descriptive statistics

This questionnaire inquired about three different demographic characteristics, which were gender, income after taxes, and age. Moreover, at the very beginning of the survey, the respondents were asked two screening questions, which served to make sure that consumers were familiar with the concept of zero-waste shops. In the first and second questions, respondents were present with two pictures, one showcasing an example of zero-waste shop, and the other of a standard shop utilizing packaged goods. Alongside the question, as well as in the description of the questionnaire itself, it was specified that zero-waste shops are stores that do not utilize packaging at all. Respondents who failed to identify correctly in either one of the first two questions, the zero-waste shop, were excluded from the survey. In total, the questionnaire gathered 293 responses, however 8 of them were excluded from the survey, as 4 respondents failed to identify the zero-waste shop in question 1, and 4 other respondents failed to do the same in question 2. Therefore, in total, 285 valid responses were collected.

The distribution of the respondents in this survey was quite equal between the two genders, as there were 154 female respondents, which accounted to 54% of total respondents, and 131 male respondents, representing 46% of total responses. Surprisingly, there were no respondents who selected "other" option, which was available in the study.

Table 4.

Category	Frequency	Percent
Your gender		
Female	154	54
Male	131	46

When it comes to age distribution, most respondents were aged 25-34, where there were 124 total responses collected from this group, accounting for 43,5%. There was also a similar number of responses that arrived from people aged 18-24, which represented 38,9% of total responses (111 in total). The other two age groups presented in the questionnaire, which were 35-44 and 45+, did not gather that many respondents in total. For this reason, in the analysis the two groups were merged into one, which represented a total of 17,6% of total respondents (50 in total).

Table 5.

Category	Frequency	Percent
Your age		
18-24	111	38.9
25-34	124	43.5
35+	50	17.6

Lastly, when it comes to income distribution, there was quite an equal distribution amongst the respondents. Most of the people who answered the survey were earning a net monthly income of 1001-1500 euros after taxes, where there was a total of 87, or 30.5% of total sample. After that, there were 84 people (29.5%) claiming they have an income lower than 1000 euros per month. Third most popular group was respondents who earned 1501-2000 euros per month, which accounted to 24.9% of total sample (71 respondents). And lastly, 42 people (15.1%) who answered the survey were earning a monthly net income of 2001+ euros.

Table 6.

Category	Frequency	Percent
Your average monthly net income (after taxes)		
1000€ and less	84	29.5
1001€ - 1500€	87	30.5
1501€ - 2000€	71	24.9
2001€ and more	42	15.1

As previously mentioned, this survey utilized 10 constructs that were measured on a 7-point Likert scale, with Values ranging from Strongly Disagree (1), to Strongly Agree (7). 3 of the items utilized a reversed scale, so they needed recording prior to the analysis. Those three items were questions 2 and 4 related to Neuroticism construct ("I am relaxed most of the time" and "I seldom feel blue"), and the question 3 of conscientiousness scale ("Sometimes I can't be reliable or trusted"), which were all recoded in SPSS. The table below demonstrates what are the means of the constructs utilized in the study and the normal distribution of data thanks to Skeweness and Kurtosis values.

Table 7

Categories	N	Mean	Std. Deviation	Skewness	Kurtosis
Neuroticism	285	4.25	1,2982	-0.312	-0.335
Openness to experience	285	5.84	1,0423	-1.522	3.468
Extraversion	285	4.61	1,5132	-0.461	-0.453
Agreeableness	285	5,93	1.1894	-1.701	3.351
Conscientiousness	285	5.56	1.1228	-0.829	0.437
Environmental awareness	285	4.85	1.4273	-0.770	-0.188
Attitudes towards ZWS	285	5.76	1.2807	-1.367	1.990
Intention to purchase from ZWS	285	5.18	1.5611	-1.1001	0.416
Intrinsic motivation	285	4.86	1.5462	-0.666	-0.336
Extrinsic motivation	285	4.93	1.4746	-0.552	-0.459

Neuroticism scored a neutral mean value in the analysis (4.25), meaning that the respondents were neutral towards this construct. Moreover, neuroticism is also the scale that scored the lowest mean value amongst all constructs. Agreeableness was the construct that had the second highest mean value (5.84), suggesting that respondents of this survey were generally more open to trying out new experiences. Extraversion was the construct with the second-lowest mean (4.61), however it is still towards the favorable side, suggesting that respondents were slightly more open to being sociable and talking to other individuals. Agreeableness was the scale that scored the highest mean in this survey (5.93), indicating that respondents were highly agreeable, and sympathetic towards others. Speaking about scales not related to big-5 personality traits, Environmental awareness collected an average of 4.85, attitudes towards zero-waste shops scored the second-highest mean of 5.67, indicating that most respondents had favorable sentiments towards implementation of package-free shops; and Intention to purchase from zero-waste shops collected a mean of 4.86. When it comes to the 2 scales that analyzed type of motivation, the means were very close, but extrinsic motivation (4.93) scored a slightly higher average compared to intrinsic motivation (4.86).

Additionally, the table also depicts the normal distribution of data. We can observe that data of this survey is normally distributed thanks to Skeweness value, which showcases that all values of all constructs are <2, indicating normal distribution; and also, thanks to Kurtosis parameter, which indicates normal distribution of data thanks to all values being <4. Another way of checking normal distribution of data is through the Q-Q plot graph presented for each construct in Annex 2. In this

graph, data is considered normally distributed when it aligns to the diagonal line. As can be seen in Annex 2, this is true for all constructs, indicating normal data distribution.

3.2 Reliability analysis of constructs

To verify whether the variables utilized in the study are reliable, a reliability test has been performed to verify suitability of the scales. This thesis already mentioned the reliability values of the constructs utilized in previous scientific literature, where Cronbach alphas were presented. It is also important to verify whether the constructs utilized in this study will remain reliable or not. A construct with good reliability is considered to have a Cronbach alpha value of 0.7 or above.

Table 8

Construct	Number of items	Cronbach alpha
Neuroticism	4	0.817
Openness to experience	3	0.842
Extraversion	3	0.883
Agreeableness	3	0.926
Conscientiousness	3	0.661
Environmental awareness	3	0.885
Attitudes towards ZWS	3	0.960
Intention to buy from ZWS	3	0.971
Green intrinsic motivation	5	0.954
Green extrinsic motivation	3	0.879

As can be seen, all variables have a Cronbach alpha value of 0.8 or above, indicating a very good reliability of the constructs. Only one scale, conscientiousness, scores a lower Cronbach alpha of 0.66, which is still considered suitable and reliable for data analysis.

3.3 Hypotheses testing.

To test the hypothesis developed in this paper, two types of tests have been performed. For hypothesis H1 to H8, regression analysis has been performed to measure whether the independent variable had a positive or negative impact on a dependent variable. When it comes to regression

analysis, it is important to verify that analysis of variance (ANOVA) p value is less than 0.05 (p<0.05), otherwise the hypothesis developed would be insignificant, and, consequently, rejected. Afterwards, to verify suitability of the model, R Square value was checked, which presents the percentage of points of the dependent variable that could be explained by independent variables. To be suitable, or reliable, at least 20% of points should be represented by R Square, therefore the value should be $R^2 > 0.2$. Afterwards, for hypothesis H9 to H13, mediating analysis had to be performed in order to check whether environmental awareness mediated the relationship between big-5 personality traits and intention to purchase from ZWS. For hypotheses H14 to H17, moderation analysis had to be applied, to observe whether there was a moderating effect between the relationships of two variables.

H1. Neuroticism has a negative impact on environmental awareness.

The first hypothesis analyzed whether there is a direct negative impact between Neuroticism and environmental awareness. After performing regression analysis, the results show that Anova p value is above 0.05 (p=0.266). There is no reason to procced with further analysis and it can be confirmed that H1 is rejected, whilst H0 remains confirmed. Therefore, we can conclude by stating that Neuroticism does not have significant negative impact on environmental awareness.

H2. Openness to experience positively affects environmental awareness.

The second hypothesis had the objective of verifying whether openness to experience had a significant positive effect on environmental awareness. After performing the regression analysis, it can be observed that there is a positive impact between the two variables: openness to experience (t=6.908, p<0.001) positively affects environmental awareness (R^2=0.144, F(1)=47.7, p<0.001). However, it is important to mention that the reliability of the model might be questionable due to the low R Square value (0.144), which, being below 0.2, questions the reliability of the model. It can still be concluded that H2 is accepted and that openness to experience positively affects environmental awareness. Moreover, it can be stated that one unit increase in openness to experience will cause 0.380 (β=0.380, p<0.001) unit increase in environmental awareness.

Table 9

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	1.809	0.447		4.049	<0.001
Openness to experience	0.520	0.075	**0.380**	6.908	**<0.001**

H3. Extraversion has a positive impact on environmental awareness.

The third hypothesis had the objective of verifying whether extraversion has a significant positive impact on environmental awareness. After performing the regression analysis ($R2=0.19$, $F(1)=66.358$, $p<0.001$), extraversion ($t=8.146$, $p<0.001$). However, as with the previous hypothesis, there is a possibility of the model's reliability being questionable due to the R Square value being below 0.2 (1.9). However, the hypothesis can still be confirmed and it can be concluded that extraversion does have a significant positive impact on environmental awareness.

As can be observed, one unit increase in extraversion will cause 0.436 ($\beta=0.598$, $p<0.001$) unit increase in environmental awareness.

Table 10

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	2.951	0.245		12.046	<0.001
Openness to experience	0.411	0.050	**0.436**	8.146	**<0.001**

H4. Agreeableness has a positive effect on environmental awareness.

The fourth hypothesis is meant to analyze whether agreeableness has a direct positive effect on environmental awareness. From the results of the regression analysis ($R2=0.113$, $F(1)=36.129$, $p<0.001$), it can be observed that agreeableness variable ($t=6.011$, $p<0.001$) does have a positive

impact on environmental awareness. However, once again the R2 value is very low (0.113), which questions again the reliability of the model and its results. Nevertheless, it can still be concluded that H4 is accepted, and that agreeableness has a direct positive impact on environmental awareness. One unit increase in agreeableness will cause 0.336 (β=0.336, p<0.001) unit increase in environmental awareness.

Table 11

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	2.453	0.406		6.04	<0.001
Openness to experience	0.404	0.067	**0.336**	6.011	**<0.001**

H5. Conscientiousness positively affects environmental awareness.

The fifth hypothesis had the goal of analyzing whether the last big 5 variable, conscientiousness, had direct positive impact on environmental awareness. From the regression analysis performed (R2=0.40, F(1)=11.867, p<0.001), the results show that conscientiousness (t=3.445, p<0.001) does have a direct positive impact on environmental awareness. However, given that the value of R2 is extremely low, it means that the results and findings of the tests are extremely questionable. Nevertheless, it can be concluded that H5 is accepted, however it is important to mention that the findings are not meaningful.

Table 12

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	3.429	0.420		8.169	<0.001
Openness to experience	0.255	0.074	**0.201**	3.445	**<0.001**

H6. Environmental awareness has a direct positive impact on attitudes towards zero waste lifestyle

The sixth hypothesis had the objective of verifying whether environmental awareness has a direct positive attitude on attitudes towards ZWS. From the results obtained from the regression analysis ($R^2=0.384$, $F(1)=176.721$, $p<0.001$, it can confidently be said that there is a direct impact of environmental awareness ($t=13.294$, $p<0.001$) on the dependent variable. One unit increase in environmental awareness will cause 0.620 ($\beta=0.620$, $p<0.001$) unit increase in attitudes towards ZWS. Therefore. We can conclude that H6 is accepted and that environmental awareness does have a significant positive impact on attitudes towards ZWS.

Table 13

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	3.061	0.211		14.479	<0.001
Openness to experience	0.556	0.042	**0.620**	13.294	**<0.001**

H7. Environmental awareness has direct positive impact on intention to purchase from zero-waste shops.

The seventh hypothesis had the goal of observing whether environmental awareness had a significant positive effect on the intention to purchase from zero-waste shops. From the results of the regression analysis ($R^2=0.436$, $F(1)=218.868$, $p<0.001$), it can be confirmed that the independent variable, environmental awareness ($t=14.794$, $p<0.001$) does have impact on the dependent variable. One unit increase in environmental awareness will cause 0.660 ($\beta=0.660$, $p<0.001$) unit increase in intention to purchase from ZWS. Therefore, it can be stated and concluded that H7 is accepted, and that environmental awareness does have a significant positive effect on intention to purchase from ZWS.

Table 14

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	1.677	0.247		6.799	<0.001
Openness to experience	0.722	0.049	**0.660**	14.794	**<0.001**

H8. Attitudes towards zero-waste lifestyle has direct positive impact on intention to purchase from zero-waste shops.

The final hypothesis related to regression analysis had the objective of measuring whether attitudes towards ZWS have a significant positive impact on intention to buy from ZWS. From the regression analysis ($R2=0.605$, $F(1)=432.615$, $p<0.001$) it can be observed that attitudes towards ZWS ($t=20.799$, $p<0.001$) do have a positive impact on the dependent variable. One unit increase in attitudes towards ZWS will cause 0.778 ($\beta=0.778$, $p<0.001$) unit increase in intention to purchase from ZWS. Therefore, we can conclude that H8 is accepted and that there is a direct positive influence of attitudes towards ZWS on intention to purchase from ZWS.

Table 15

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	-0.279	0.269		-1.038	0.300
Openness to experience	0.948	0.046	**0.778**	20.799	**<0.001**

H9. Environmental awareness mediates the negative relationship between Neuroticism and intention to purchase from zero-waste shops.

The first hypothesis related with mediation analysis had the objective of analyzing whether environmental awareness has a mediating effect on the negative relationship between neuroticism

and intention to purchase from ZWS. After performing the mediation analysis, it was discovered the there is neither a direct effect of Neuroticism on intention to purchase from ZWS (p=0.499), and neither there is a mediating effect of environmental awareness between the two variables, as the result of the analysis showed: b = 0.0536, BootSE = .0524, 95% BootCI [-0.1569, 0.0491]. As it can be seen, the effect is negative, however, it is not significant, which suggests that there is not mediating effect. Therefore, it is concluded that H9 is rejected.

H10. Environmental awareness mediates the positive relationship between openness to experience and intention to purchase from zero-waste shops.

The tenth hypothesis had the objective of verifying whether environmental awareness had a mediating effect on the positive relationship between openness to experience and intention to purchase from ZWS. The result of the mediating analysis is as follows.

Total effect of x (openness to experience) on y (intention to buy from ZWS): b = 0.6736, SE = 0.0795, t = 8.4709, p < 0.001.

Direct effect of x (openness to experience) on y (intention to buy from ZWS): b = 0.3481, SE = 0.0694, t = 5.018, p < 0.001.

Indirect effect of x (openness to experience) on y (intention to buy from ZWS): b = 0.3255, BootSE = 0.0560, 95% BootCI [0.2154, 0.4347].

As can be seen, there is a direct positive effect that openness to experience has on the intention to purchase from ZWS, making it a valid predictor. Moreover, the values of indirect effect also present that there is a mediating effect that environmental awareness has on the relationship between openness to experience and intention to purchase form ZWS, given that the values of confidence interval are above 0. To conclude, it can be confirmed that H10 is accepted, and that environmental awareness has a partial mediating effect on the relationship between openness to experience and intention to buy from ZWS.

H11. Environmental awareness mediates the positive relationship between Extraversion and intention to purchase from zero-waste shops.

This hypothesis had the goal of verifying whether environmental awareness had a mediating effect on the relationship between extraversion and intention to buy from ZWS. The mediating analysis gave the following results.

Total effect of x (etraversion) on y (intention to buy from ZWS): b = 0.5084, SE = 0.0534, t = 9.5278, p < 0.001.

Direct effect of x (extraversion) on y (intention to buy from ZWS): b = 0.2611, SE = 0.0488, t = 5.3455, p < 0.001.

Indirect effect of x (extraversion) on y (intention to buy from ZWS): b = 0.2473, BootSE = 0.0427, 95% BootCI [0.1682, 0.3365].

As can be verified from the data of the results, there is a positive direct relationship that extraversion has with the intention to purchase from ZWS. Moreover, the data also indicates that there is an indirect effect between extraversion and intention to buy from ZWS through environmental awareness, as the confidence interval is positive and above 0 value, which suggest partial mediation. Consequently, to conclude, it can be confirmed that H11 is accepted and that environmental awareness has a partial mediating effect on the direct positive relationship between extraversion and intention to purchase from ZWS.

H12. Environmental awareness mediates the positive relationship between Agreeableness and intention to purchase from zero-waste shops.

This hypothesis was developed to measure whether environmental awareness mediates the positive relationship between agreeableness and intention to purchase from ZWS. Once again, mediating analysis was performed on SPSS which provided the following results.

Total effect of x (agreeableness) on y (intention to buy from ZWS): b = 0.6664, SE = 0.0672, t = 9.9138, p < 0.001.

Direct effect of x (agreeableness) on y (intention to buy from ZWS): b = 0.4226, SE = 0.0570, t = 7.4110, p < 0.001.

Indirect effect of x (agreeableness) on y (intention to buy from ZWS): b = 0.2438, BootSE = 0.0489, 95% BootCI [0.1534, 0.3469].

From the gathered results, it can be stated that there is a direct positive effect that agreeableness has on the intention to purchase from ZWS. Moreover, as with previous two hypotheses, in H12 environmentally awareness also has a mediating effect on the relationship between agreeableness and intention to buy from ZWS, as the confidence interval is positive and above the value of 0, suggesting partial mediation. Finally, it can be concluded that H12 is accepted and that environmental awareness has a partial mediating effect on the positive relationship between agreeableness and intention to buy from ZWS.

H13. Environmental awareness mediates the positive relationship between Conscientiousness and intention to purchase from zero-waste shops

The final hypothesis dealing with mediation has the objective of verifying whether environmental awareness had a mediating effect between the last big 5 personality traits, conscientiousness, and the intention to purchase from ZWS. SPSS mediation analysis provided these results.

Total effect of x (conscientiousness) on y (intention to buy from ZWS): b = 0.4460, SE = 0.0783, t = 5.6971, p < 0.001.

Direct effect of x (conscientiousness) on y (intention to buy from ZWS): b = 0.2728, SE = 0.0620, t = 4.4461, p < 0.001.

Indirect effect of x (conscientiousness) on y (intention to buy from ZWS): b = 0.1732, BootSE = 0.0620, 95% BootCI [0.0512, 0.2949].

Results in H13 were similar with previous 3 hypotheses. Again it was discovered that there is a direct positive effect between conscientiousness and intention to purchase from ZWS, and that there is indication of partial mediating effect of environmental awareness on the relationship between the dependent and independent variable, given that confidence level value was above 0. Therefore, it can be stated that H13 Is accepted and that environmental awareness does have a partial mediating effect on the positive relationship between conscientiousness and intention to buy from ZWS.

H14. Green intrinsic motivation moderates the relationship between environmental awareness and intention to purchase from zero-waste shops, such as the relationship between environmental awareness and intention to purchase from zero-waste shops increases when green intrinsic motivation is high and vice versa.

The objective of this analysis is to measure whether intrinsic motivation has a moderating effect in the relationship between environmental awareness and intention to purchase from ZWS. Moderating analysis was performed to test the hypothesis.

Model summary (overall model): R = 0.8359, R^2 = 0.6988, F(3, 281) = 217.318, p < 0.001. This model explains approximately 69.88% of the variance of intention to purchase from ZWS, and the model is statistically significant.

Main effects: Effect of environmental awareness on intention to purchase from ZWS: b = 0.2497, t = 5.25, p < .001. Effect of green intrinsic motivation on intention to purchase from ZWS: b = 0.6096, t = 14.3797, p < .001. This data shows that both environmental awareness and green intrinsic motivation have a direct positive effect on the intention to purchase from ZWS.

Interaction effect: interaction (environmental awareness x green intrinsic motivation): b = -0.0784, t = -3.5392, p = 0.0005. The interaction effect between environmental awareness and green intrinsic motivation is statistically significant (p = 0.0005), suggesting that green intrinsic motivation might have a moderating effect on the relationship between green intrinsic motivation and intention to purchase from ZWS.

Conditional effects of environmental awareness at levels of green intrinsic motivation: the table that is presented below demonstrates the effect of environmental awareness on intention to purchase from ZWS at low, moderate, and high levels of green intrinsic motivation.

Table 16

Green intrinsic motivation (level)	Effect of environmental awareness on intention to purchase from ZWS	t	p
Low (-1.5462 SD)	0.3709	7.5324	<0.001
Moderate (0 SD)	0.2496	5.249	<0.001
High (+1.5462 SD)	0.1283	1.9241	0.0544

The effect of environmental awareness is significant across low and moderate levels if green intrinsic motivation, with high level being slightly questionable due to p value being slightly above 0.05. These findings suggest that for individuals with high low green intrinsic motivation, the positive relationship between environmental awareness on intention to purchase from ZWS is the strongest, whilst for individuals with high green intrinsic motivation this relationship is the weakest. To conclude, it can be stated that H14 is rejected and that green intrinsic motivation does have a moderating effect on the relationship between green intrinsic motivation and intention to purchase from ZWS, however as level of green intrinsic motivation increases, the relationship between environmental awareness and intention to purchase from ZWS decreases.

H15. Green intrinsic motivation moderates the relationship between attitudes towards zero waste lifestyle and intention to purchase from zero-waste shops, such as the relationship between environmental awareness and attitudes towards zero-waste shops increases when green intrinsic motivation is high and vice versa.

The hypothesis had the objective of verifying whether green intrinsic motivation had a moderating effect on the relationship between attitudes towards ZWS and intention to buy from ZWS. Once again, moderation analysis was performed and the following results were obtained.

Model summary (overall model): R = 0.8573, R² = 0.7350, F(3, 281) = 259.76, p < 0.001. This model explains approximately 73.50% of the variance of intention to purchase from ZWS, and the model is statistically significant.

Main effects: Attitudes towards ZWS on intention to purchase from ZWS: b = 0.4620, t = 7.59, p < .001. Effect of green intrinsic motivation on intention to purchase from ZWS: b = 0.5058, t = 11.6494, p < .001. This data shows that both environmental awareness and green intrinsic motivation have a direct positive effect on the intention to purchase from ZWS.

Interaction effect: interaction (attitudes towards ZWS x green intrinsic motivation): b = -0.0430, t = -1.9541, p = 0.0517. Although the p significance value is slightly higher than 0.05 value (0.0517), it can be stated that the interaction effect between attitudes towards ZWS and green intrinsic motivation is significant, suggesting that green intrinsic motivation might have a moderating effect on the relationship between green intrinsic motivation and intention to purchase from ZWS. However, due to slightly higher significance value, the test reliability is not the highest.

Conditional effects of attitudes towards ZWS at levels of green intrinsic motivation: the table that is presented below demonstrates the effect of attitudes towards ZWS on intention to purchase from ZWS at low, moderate, and high levels of green intrinsic motivation.

Table 17

Green intrinsic motivation (level)	Effect of attitudes towards ZWS on intention to purchase from ZWS	t	p
Low (-1.5462 SD)	0.5285	10.069	<0.001
Moderate (0 SD)	0.4620	7.5901	<0.001
High (+1.5462 SD)	0.3954	4.7352	<0.001

The effect of environmental awareness is significant across all levels of green intrinsic motivation, however relationship between attitudes towards ZWS on intention to purchase from ZWS is strongest at low levels of green intrinsic motivation, and it is lowest during high level of green intrinsic motivation. Nevertheless, it can be concluded that H15 is rejected, and that green intrinsic motivation does play a moderating effect on the relationship between attitudes towards ZWS and intention to purchase from ZWS, however as level of green intrinsic motivation increases, the relationship between attitudes towards ZWS and intention to purchase from ZWS decreases.

H16. Green extrinsic motivation moderates the relationship between environmental awareness and intention to purchase from zero-waste shops, such as the relationship between environmental awareness and intention to purchase from zero-waste shops decreases when green extrinsic motivation is high and vice versa.

H16 had the goal of analyzing whether green extrinsic motivation had a moderating effect on the relationship between environmental awareness and intention to purchase from ZWS, and, to verify the result and test hypothesis, moderation analysis was performed.

Model summary (overall model): $R = 0.6876$, $R^2 = 0.4728$, $F(3, 281) = 84.0054$, $p < 0.001$. This model explains approximately 47.28% of the variance of intention to purchase from ZWS, and the model is statistically significant.

Main effects: Effect of environmental awareness on intention to purchase from ZWS: $b = 0.5956$, $t = 10.7514$, $p < .001$. Effect of green extrinsic motivation on intention to purchase from ZWS: $b = 0.1658$, $t = 3.1798$, $p < .001$. This data shows that both environmental awareness and green extrinsic motivation have a direct positive effect on the intention to purchase from ZWS.

Interaction effect: interaction (environmental awareness x green extrinsic motivation): $b = -0.0771$, $t = -2.5705$, $p = 0.0107$. The interaction effect between environmental awareness and green extrinsic motivation is statistically significant ($p = 0.0107$), suggesting that green intrinsic motivation might have a moderating effect on the relationship between green extrinsic motivation and intention to purchase from ZWS.

Conditional effects of environmental awareness at levels of green extrinsic motivation: the table that is presented below demonstrates the effect of environmental awareness on intention to purchase from ZWS at low, moderate, and high levels of green extrinsic motivation.

Table 18

Green extrinsic motivation (level)	Effect of environmental awareness on intention to purchase from ZWS	t	p
Low (-1.4746 SD)	0.7093	11.6892	<0.001
Moderate (0 SD)	0.5956	10.7514	<0.001
High (+1.4746 SD)	0.4819	6.0386	<0.001

The effect of environmental awareness on intention to purchase from ZWS is significant across all levels of green extrinsic motivation. The effect between the dependent and independent variable

is the strongest in case of low level of green extrinsic motivation, whilst it is the lowest in the case of high extrinsic motivation. It can be concluded that H16 is accepted and that green extrinsic motivation has a moderating effect on the relationship between environmental awareness and intention to buy from ZWS.

H17. Green extrinsic motivation moderates the relationship between attitudes towards zero waste lifestyle and intention to purchase from zero-waste shops, such as the relationship between environmental awareness and attitudes towards zero-waste shops decreases when green extrinsic motivation is high and vice versa.

The last hypothesis focused on observing whether green extrinsic motivation had a moderating effect on the relationship between attitudes towards ZWS and intention to buy from ZWS. Once again, moderating test was performed on SPSS to verify the hypothesis.

Model summary (overall model): $R = 0.7882$, $R^2 = 0.6212$, $F(3, 281) = 153.5987$, $p < 0.001$. This model explains approximately 78.82% of the variance of intention to purchase from ZWS, and the model is statistically significant.

Main effects: Effect of attitudes towards ZWS on intention to purchase from ZWS: $b = 0.8489$, $t = 15.4859$, $p < .001$. Effect of green extrinsic motivation on intention to purchase from ZWS: $b = 0.1395$, $t = 3.2437$, $p < .001$. This data shows that both attitudes towards ZWS and green extrinsic motivation have a direct positive effect on the intention to purchase from ZWS.

Interaction effect: interaction (attitudes towards ZWS x green extrinsic motivation): $b = -0.0364$, $t = -1.2524$, $p = 0.2115$. The interaction effect between environmental awareness and green extrinsic motivation is statistically not significant ($p = 0.2115$), meaning that there is no moderating effect of green extrinsic motivation on the relationship between attitudes towards ZWS and intention to purchase from ZWS. For this reason. It can be concluded that H17 is rejected.

In conclusion, this research analyzed 17 hypotheses related to factors affecting intention to purchase from zero-waste stores, where the impact, moderating, and mediating effects were analyzed. Out of the 17 hypotheses developed, 12 were accepted, which allows the possibility to provide some conclusions and recommendations, and 5 of them were rejected (of which 3 were not significant).

4. Conclusions, recommendations and limitations.

Conclusions and recommendations.

1. Zero-waste movement, which is a pro-environmental concept meant to reduce waste derived from excessive packaging, is a movement that is gaining more importance and recognition in the past few years. This underlines the importance for companies to understand what this concept consists of, and how it can be integrated into organizational activities or campaigns to gain benefits. For brands that already are using this practice, the findings can be useful to understand what the underlying effects behind them are, and what they can do to improve organizational activities.

2. Environmental awareness and attitudes towards ZWS are important predecessors of intention to purchase from ZWS. This means that companies that do utilize package-free shops need to educate consumers about the potential negative environmental consequences that carefree use of excessive packaging could cause. Doing so could help to shape consumers' environmental awareness, which, in return, will increase their intention to purchase from ZWS. Moreover, brands need to make sure to shape positive attitudes towards the concept of ZWS. Communicating what are the benefits to the environment that the implementation of these shops would bring could help to achieve this. Therefore, a zero-waste awareness campaign would be important for companies to create favorable attitudes towards them. It is also important to highlight that people who are aware of environmental issues tend to also build positive attitudes towards ZWS. This further solidifies the reason why consumer education is necessary to thrive in the market.

3. Thanks to regression analysis, it was discovered that out of the big-5 personality traits, 4 of them had a small impact on environmental awareness. In essence, all the traits except Neuroticism had a positive effect on environmental awareness, which is an extremely useful finding for companies for several reasons. Firstly, it allows companies to understand what the psychological characteristics of the consumers are who are prone to having a higher degree of environmental concern. This allows them to understand and develop specific targeting tactics to select specific consumer target audiences who share similar characteristics. Moreover, it helps companies to understand best how to develop the content of environmental awareness campaigns, which should not be targeted towards neurotic individuals, as there will most likely not be any significant outcome, but rather focus on agreeable, conscientious, extravert and open to experience individuals in order to raise their environmental concern even further.

4. The mediation analysis performed helped also to identify that environmental awareness does have a partial mediating effect in the relationship between 4 of the big 5 personality traits (agreeableness, conscientiousness, extraversion and openness to experience) and intention to purchase from ZWS. In essence, those 4 variables already did have impact on intention to buy from ZWS, but with the intervention and presence of environmental awareness the relationship was stronger. This is important for companies whose business model is based on, or simply is planning to integrate ZWS concept, as it underlines the importance of raising people's environmental concern level in order to increase their chances of purchasing at zero-waste stores. Also, as in the previous point (3), it also helps companies and marketing agencies understand some of the psychographic characteristics of the target consumers, which helps them to understand in what tone the marketing messages (preferably containing environmental awareness messages) should be developed, and which consumers should they better be delivered to.

5. The moderation analysis performed in this helped us to understand that green intrinsic motivation has a moderating effect on the relationship between both environmental awareness and intention to purchase from ZWS, and on attitudes towards ZWS on intention to purchase from ZWS. Additionally, it helped us understand that green extrinsic motivation also plays a significant role in the relationship between environmental awareness and intention to purchase from ZWS. From this analysis, there are three interesting findings that are worth mentioning:

The first one, which is counterintuitive, but valid, is that environmental awareness increases intention to purchase from zero-waste stores most strongly among consumers with lower green intrinsic motivation. This means that consumers who are already highly environmentally aware, do not need any strong green intrinsic motivation cues to be convinced to shop at ZWS, they are already committed to them. On the other hand, people who are less intrinsically motivated are more persuadable, which means that their purchasing intentions are significantly impacted by environmental awareness. For marketing agencies, or ZW companies, this finding is helpful as it explains that awareness campaigns can have diminishing returns on highly intrinsically motivated consumers but are beneficial for low intrinsically motivated people.

The second important conclusion explains and indicates that the relationship between favorable attitudes towards ZWS and intention to shop at ZWS is bigger amongst individuals with lower green intrinsic motivation. As with previous conclusion, it could be suggested that this comes from the fact that individuals who have a favorable attitude

towards ZWS do not need any additional internal motivating elements to further increase their likelihood of shopping in package-free stores. However, comparing with previous moderating hypothesis, it is worth mentioning that the effect here is quite strong amongst all levels of green intrinsic motivation, which can still be interpreted as a sign that in shaping the consumers' favorable attitudes towards ZWS, it is important to underline the fact that this activity should be done because it is enjoyable and self-satisfying. Therefore, in creating an advertisement campaign or message, companies and agencies can deliver this type of message to the target audience, however it is not worth investing heavily in this type of activity.

Lastly, it was discovered that also in case of consumers who have lower extrinsic motivation, the impact of environmental awareness on intention to purchase from ZWS is higher. Again, this could be explained by hypothesizing that people who are already environmentally concerned do not need any external recognition, or impulses, to increase their intention to purchase from ZWS, and individuals who are more reliant on external incentives, are less dependent on environmental knowledge, or concern, to have a higher degree on the intention to purchase. However, it is also important to mention that the effect is significant across all types of green extrinsic motivation, so it is important for marketing agencies and ZWS to maintain some external awards, recognitions, elements, that could drive environmentally aware consumers to purchase from ZWS. However, it is important to underline that by increasing the use of external motivational factors, the relationship between people's environmental awareness and intention to purchase from ZWS will be weaker.

Limitations. Even though there are some valuable conclusions and recommendations that have been obtained from the thesis, there still are some aspects that could be improved in future research related to this topic.

1. Majority of the respondents came from Lithuania, given that convenience sampling method has been selected. It would be interesting to see whether the same results would be obtained in different countries, maybe where zero-waste stores are more developed and present, or maybe in a country where pollution is a highly relevant topic as it is highly polluted.
2. Sample size of the survey itself was 285 respondents. Although, according to theory applied, it is considered as valid and reliable, it is worth mentioning that a bigger sample

size could have made the findings even more reliable, as some scientific papers have 1000 or more respondents, which makes the findings proposed even more valid.

3. Also, it is important to mention that due to economic and time constraints, convenience sampling methods were selected, which is a non-probability method. According to theory, it could be more reliable to implement the use of probability sampling, where all members of target population have an equal chance of being selected.

4. Lastly, there are still a lot of other factors worth exploring. Given that this is quite a recent topic, this thesis has selected a very broad topic to be analyzed. Future studies could analyze a narrower topic related to zero-waste shops, in order to provide even more specific recommendations for companies and marketing agencies.

REFERENCES.

- Abos, R. M., Taffe, S., Connory, J., Karunasena, G. G., & Pearson, D. (2024). Reducing food waste through persuasive communication design: how data visualisation principles reinforce behaviour change social marketing messages. *Journal of Social Marketing*, *14*(3/4), 398-431.

- Ahmed, N., Li, C., Khan, A., Qalati, S. A., Naz, S., & Rana, F. (2021). Purchase intention toward organic food among young consumers using theory of planned behavior: role of environmental concerns and environmental awareness. *Journal of Environmental Planning and Management*, *64*(5), 796-822.

- Ajzen, I. (1991). The theory of planned behavior. Organizational behavior and human decision processes, 50(2), 179-211.

- Ajzen, I., Fishbein, M., Lohmann, S., & Albarracín, D. (2018). The influence of attitudes on behavior. *The handbook of attitudes, volume 1: Basic principles*, 197-255.

- Akbar, K., Jin, Y., Mahsud, M., Akbar, M., Waheed, A., & Amin, R. (2020, September). Role of big five personality traits in sustainable consumption behavior. In *Proceedings of the 3rd International Conference on Big Data Technologies* (pp. 222-226).

- Ariana, Y., & Satwika, P. A. (2022). The Contribution of Openness to Experience in Establishing Pro-Environmental Behavior. *Psikostudia: Jurnal Psikologi*, *11*(3), 351-359.

- Ashton, M. C., & Lee, K. (2007). Empirical, theoretical, and practical advantages of the HEXACO model of personality structure. *Personality and social psychology review*, *11*(2), 150-166.

- Baba-Nalikant, M., Abdullah, N. A., Husin, M. H., Syed-Mohamad, S. M., Mohamad Saleh, M. S., & Rahim, A. A. (2023). The relationship between knowledge, attitudes, values, and technology in promoting zero-waste pro-environmental behaviour in a zero-waste campus framework. *Recycling*, *8*(2), 40.

- Backer, S., & Prasanth, A. P. (2024). Influence of locus of control on green buyer behaviour: mediating role of motivation and the moderating role of health consciousness. *Asia-Pacific Journal of Business Administration*.

- Badowska, S., & Delińska, L. (2019). The zero waste concept from the young consumers' perspective. Does gender matter?. *Annales Universitatis Mariae Curie-Skłodowska, Sectio H Oeconomia*, *53*(1).

- Bagui, B. E., & Arellano, L. R. A. C. (2021). Zero waste store: a way to promote environment-friendly living. *International Journal of Qualitative Research*, *1*(2), 150-155.

- Barbaro, N., Pickett, S. M., & Parkhill, M. R. (2015). Environmental attitudes mediate the link between need for cognition and pro-environmental goal choice. *Personality and Individual Differences*, *75*, 220-223.

- Bogusz, M., Matysik-Pejas, R., Krasnodębski, A., & Dziekański, P. (2021). The concept of zero waste in the context of supporting environmental protection by consumers. *Energies*, *14*(18), 5964.

- Botha, E. I., & Wiese, M. (2024). Modelling zero waste behavioural intent: The moderating role of perceived behavioural control and Socio-Demographic factors. *Cleaner and Responsible Consumption*, *12*, 100177.

- Beitzen-Heineke, E. F., Balta-Ozkan, N., & Reefke, H. (2017). The prospects of zero-packaging grocery stores to improve the social and environmental impacts of the food supply chain. *Journal of Cleaner Production*, *140*, 1528-1541.

- Brunner, P. H., & Rechberger, H. (2015). Waste to energy–key element for sustainable waste management. *Waste management*, *37*, 3-12.

- Busic-Sontic, A., Czap, N. V., & Fuerst, F. (2017). The role of personality traits in green decision-making. *Journal of Economic Psychology*, *62*, 313-328.

- Canlas, I. P., Karpudewan, M., & Khan, N. S. M. A. (2022). More than twenty years of value-belief-norm theory of environmentalism: what has been and yet to be done?. *Interdisciplinary Journal of Environmental and Science Education*, *18*(2), e2269.

- Casaló, L. V., & Escario, J. J. (2018). Heterogeneity in the association between environmental attitudes and pro-environmental behavior: A multilevel regression approach. *Journal of Cleaner Production*, *175*, 155-163.

- Cheng, P., Wang, W., & Yang, S. (2024). Doing the right thing: How to persuade travelers to adopt pro-environmental behaviors? An elaboration likelihood model perspective. *Journal of Hospitality and Tourism Management*, *59*, 191-209.

- Choi, D., & Johnson, K. K. (2019). Influences of environmental and hedonic motivations on intention to purchase green products: An extension of the theory of planned behavior. *Sustainable Production and Consumption*, *18*, 145-155.

- Cleveland, M., Kalamas, M., & Laroche, M. (2005). Shades of green: linking environmental locus of control and pro-environmental behaviors. *Journal of consumer marketing*, *22*(4), 198-212.

- Cleveland, M., Kalamas, M., & Laroche, M. (2012). "It's not easy being green": Exploring green creeds, green deeds, and internal environmental locus of control. *Psychology & Marketing*, *29*(5), 293-305.

- Costa, P. T., & McCrae, R. R. (1999). A five-factor theory of personality. *Handbook of personality: Theory and research*, *2*(01), 1999.

- De Canio, F., Martinelli, E., & Endrighi, E. (2021). Enhancing consumers' pro-environmental purchase intentions: the moderating role of environmental concern. *International Journal of Retail & Distribution Management*, *49*(9), 1312-1329.

- De Canio, F., Viglia, G., & Lombart, C. (2024). Package-free products: How to improve pro-environmental buying behaviors among consumers. *Technological Forecasting and Social Change*, *198*, 122995.

- Dember, W. N., Martin, S. H., Hummer, M. K., Howe, S. R., & Melton, R. S. (1989). The measurement of optimism and pessimism. *Current psychology*, *8*, 102-119.

- De Temmerman, J., Slabbinck, H., & Vermeir, I. (2023). The full package of package-free retail environments: A mixed methods study on multiple stakeholder perspectives of package-free shopping. *Sustainable Production and Consumption*, *41*, 404-417.

- De Temmerman, J., Slabbinck, H., & Vermeir, I. (2023). The wrap-less revolution: Consumer segmentation by facilitators of and barriers to package-free shopping. *Resources, Conservation and Recycling*, *199*, 107265.

- Dilkes-Hoffman, L. S., Lane, J. L., Grant, T., Pratt, S., Lant, P. A., & Laycock, B. (2018). Environmental impact of biodegradable food packaging when considering food waste. *Journal of Cleaner Production*, *180*, 325-334.

- Duong, C. D. (2022). Big Five personality traits and green consumption: bridging the attitude-intention-behavior gap. *Asia Pacific Journal of Marketing and Logistics*, *34*(6), 1123-1144.

- Duong, C. D., Nguyen, T. H., & Nguyen, H. L. (2023). How green intrinsic and extrinsic motivations interact, balance and imbalance with each other to trigger green purchase intention and behavior: A polynomial regression with response surface analysis. *Heliyon*, *9*(10).

- Cacioppo, J. T., & Petty, R. E. (1982). The need for cognition. *Journal of personality and social psychology*, *42*(1), 116.

- Chang, C. T., Hung, M. F., & Huang, Y. Y. (2025). Breaking the Sisyphus curse: consumers' intentions and factors associated with package-free shopping. *Sustainability Science*, 1-19.

- Choi, E. H., Lee, H., Kang, M. J., Nam, I., Moon, H. K., Sung, J. W., ... & Lee, H. B. (2022). Factors affecting zero-waste behaviours of college students. *International Journal of Environmental Research and Public Health*, *19*(15), 9697.

- Drew, C. (May 10, 2023). Situational Factors: Definition and Examples. Helpful Professor. https://helpfulprofessor.com/situational-factors/.

- Eagly, A.H. and Chaiken, S. (1993) The Psychology of Attitudes. Harcourt Brace Jovanovich, Fort Worth, TX.

- Erdélyi, L. V. (2022). Consumer attitudes towards packaging-free stores in Hungary.

- Farizo, B. A., Oglethorpe, D., & Soliño, M. (2016). Personality traits and environmental choices: On the search for understanding. *Science of the Total Environment*, *566*, 157-167.

- Februadi, A., Nabilah, A., & Najib, M. F. (2022). Determinants of attitudes toward green product and purchase intention of zero-waste product: A case study of menstrual cup. *Journal of Marketing Innovation*, *2*(2), 44-56.

- Fernandez, M., Piccolo, L. S., Maynard, D., Wippoo, M., Meili, C., & Alani, H. (2017). Pro-environmental campaigns via social media: analysing awareness and behaviour patterns. Journal of Web Science, 3(1).

- Fielding, K. S., & Head, B. W. (2012). Determinants of young Australians' environmental actions: The role of responsibility attributions, locus of control, knowledge and attitudes. *Environmental Education Research*, *18*(2), 171-186.

- Filimonau, V., & Gherbin, A. (2017). An exploratory study of food waste management practices in the UK grocery retail sector. *Journal of Cleaner Production*, *167*, 1184-1194.

- Fishbein, M., & Ajzen, I. (1975). Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research. Reading, MA: Addison-Wesley.

- Galvin, B. M., Randel, A. E., Collins, B. J., & Johnson, R. E. (2018). Changing the focus of locus (of control): A targeted review of the locus of control literature and agenda for future research. *Journal of Organizational Behavior*, *39*(7), 820-833.

- Goldberg, L. R. (2013). An alternative "description of personality": The Big-Five factor structure. In *Personality and Personality Disorders* (pp. 34-47). Routledge.

- Gordon-Wilson, S., Modi, P., & Eastman, J. K. (2022). Values, personality traits, and packaging-free shopping: A mixed-method approach. *Business Ethics, the Environment & Responsibility*, *31*(2), 546-561.

- Gordon-Wilson, S., & Modi, P. (2015). Personality and older consumers' green behaviour in the UK. *Futures*, *71*, 1-10.

- Harvey P., Baghri S. and Reed B., "Emergency Sanitation" https://ec.europa.eu/echo/files/evaluation/watsan2005/annex_files/WEDC/es/es.htm

- Ham, M., Mrčela, D., & Horvat, M. (2016). Insights for measuring environmental awareness. *Ekonomski vjesnik: Review of Contemporary Entrepreneurship, Business, and Economic Issues*, *29*(1), 159-176.

- Hashim, A. H., Xi, C. H., & Sien, C. W. (2018). Young Malaysian consumers' perception towards zero wastes. *Malaysian Journal of Consumer and Family Economics*, *21*, 65-77.

- Hayes, N., & Joseph, S. (2003). Big 5 correlates of three measures of subjective well-being. *Personality and Individual differences*, *34*(4), 723-727.

- Hermes, A., Sindermann, C., Montag, C., & Riedl, R. (2022). Exploring online and in-store purchase willingness: associations with the big five personality traits, trust, and need for touch. *Frontiers in Psychology*, *13*, 808500.

- Hirsh, J. B. (2010). Personality and environmental concern. *Journal of environmental psychology*, *30*(2), 245-248.

- Hopwood, C. J., Schwaba, T., & Bleidorn, W. (2021). Personality changes associated with increasing environmental concerns. *Journal of Environmental Psychology*, *77*, 101684.

- Huda, M., Hartati, N., Gunawan, A. I., & Luthfi, F. M. (2023, December). Revealing consumer attitudes towards green products: the role of environmental awareness, perceived value, and media influence on zero waste products purchase intentions. In *IOP Conference Series: Earth and Environmental Science* (Vol. 1267, No. 1, p. 012009). IOP Publishing.

- Idumah, C. I., & Nwuzor, I. C. (2019). Novel trends in plastic waste management. *SN Applied Sciences*, *1*, 1-14.

- Iizuka, M. (2016). Role of environmental awareness in achieving sustainable development.

- Iqbal, M. K., Raza, A., Mushtaq, H., Ahmed, F., & Havidz, I. L. H. (2018). Research on Exploring the Influence of Customer's Openness to Experience on Online Purchase Intention. *Journal of Business and Management*, *20*(6), 14-18.

- Iqbal, M. K., Raza, A., Ahmed, F., Faraz, N. A., & Bhutta, U. S. (2021). Research on influencing mechanism of big five personality traits on customers online purchase intention: a mediating role of trust. *International Journal of Electronic Business*, *16*(1), 52-76.

- Jeon, H. G., Kim, C., Lee, J., & Lee, K. C. (2021). Understanding E-commerce consumers' repeat purchase intention: the role of trust transfer and the moderating effect of neuroticism. *Frontiers in Psychology*, *12*, 690039.

- Kaida, N., & Kaida, K. (2016). Facilitating pro-environmental behavior: The role of pessimism and anthropocentric environmental values. *Social Indicators Research*, *126*, 1243-1260.

- Kaida, N., & Kaida, K. (2019). Positive associations of optimism–pessimism orientation with pro-environmental behavior and subjective well-being: a longitudinal study on quality of life and everyday behavior. *Quality of Life Research*, *28*, 3323-3332.

- Kim, S. H., & Seock, Y. K. (2019). The roles of values and social norm on personal norms and pro-environmentally friendly apparel product purchasing behavior: The mediating role of personal norms. *Journal of Retailing and Consumer Services*, *51*, 83-90.

- Khaleeli, M., & Jawabri, A. (2021). The effect of environmental awareness on consumers' attitudes and consumers' intention to purchase environmentally friendly products: Evidence from United Arab Emirates. *Management Science Letters*, *11*(2), 555-560.

- J. Kitchen, P., Kerr, G., E. Schultz, D., McColl, R., & Pals, H. (2014). The elaboration likelihood model: review, critique and research agenda. *European Journal of marketing*, *48*(11/12), 2033-2050.

- Kalamas, M., Cleveland, M., & Laroche, M. (2014). Pro-environmental behaviors for thee but not for me: Green giants, green Gods, and external environmental locus of control. *Journal of Business Research*, *67*(2), 12-22.

- Karbalaei, S., Abdollahi, A., Momtaz, V., & Abu Talib, M. (2014). Locus of control, neuroticism, and spirituality as predictors of waste-prevention behaviors. *Ecopsychology*, *6*(4), 252-259.

- Korhonen, J., Honkasalo, A., & Seppälä, J. (2018). Circular economy: the concept and its limitations. *Ecological economics*, *143*, 37-46.

- Kotler, P. and Keller, K.L. (2012) Marketing Management. 14th Edition, Pearson Education.

- Lan, B. T. H., Phuong, T. T. L., Dat, T. T., & Truong, D. D. (2023). Factors affecting the purchase intention of products with environmentally friendly packaging of urban residents in Ho Chi Minh City, Vietnam. *Sustainability*, *15*(9), 7726.

- Lau, J. L., & Jamaluddin, A. (2024). Personality and Pro-Environmental Behaviour in the Workplace: A Big Five Perspective.

- Legault, L. (2020). Intrinsic and extrinsic motivation. *Encyclopedia of personality and individual differences*, 2416-2419.

- Li, W., Bhutto, T. A., Xuhui, W., Maitlo, Q., Zafar, A. U., & Bhutto, N. A. (2020). Unlocking employees' green creativity: The effects of green transformational leadership, green intrinsic, and extrinsic motivation. *Journal of cleaner production*, *255*, 120229

- Li, Z., Yu, H., & Xing, L. (2023). The impact of green culture on employees' green behavior: The mediation role of environmental awareness. *Corporate Social Responsibility and Environmental Management*, *30*(3), 1325-1335.

- Li, Y., Wang, B., & Li, Y. (2023). The Influence of the Big Five Personality Traits on Residents' Plastic Reduction Attitudes in China. *International Journal of Environmental Research and Public Health*, *20*(10), 5762.

- Lin, Y. H. (2022). Determinants of green purchase intention: The roles of green enjoyment, green intrinsic motivation, and green brand love. *Sustainability*, *15*(1), 132.

- Lins de Holanda Coelho, G., HP Hanel, P., & J. Wolf, L. (2020). The very efficient assessment of need for cognition: Developing a six-item version. *Assessment*, *27*(8), 1870-1885.

- Locke, E. A., & Schattke, K. (2019). Intrinsic and extrinsic motivation: Time for expansion and clarification. *Motivation Science*, *5*(4), 277.

- McAdams, D. P. (1992). The five-factor model in personality: A critical appraisal. *Journal of personality*, *60*(2), 329-361.

- McCabe, K. O., & Fleeson, W. (2012). What is extraversion for? Integrating trait and motivational perspectives and identifying the purpose of extraversion. *Psychological science*, *23*(12), 1498-1505.

- Mravcová, A. (2019). Environmental awareness and environmental citizenship dimension. *Slovenská politologická revue*, *19*(2), 32-48.

- Muhiddin, S., & Pertiwi, Y. G. (2022). "Nature and Innovation": Do appreciation of nature and need for cognition predict intentions to perform sustainable behaviors?. *Jurnal Ecopsy*, *9*(1), 60-75.

- Mulia, D., & Shihab, M. S. (2023). The Strategy To Increase The Purchase Intention Of Unpacked Products. *Jurnal Manajemen*, *27*(1), 124-143.

- Mustafa, F. A., Arif, A. M. M., & Bakar, E. A. (2023). The influence of attitude, perceived behaviour control, subjective norms and self-identity towards zero waste behaviour of consumers in the Klang Valley. *Geografia-Malaysian Journal of Society and Space*, *19*(1), 152-164.

- Nguyen, T. P. L. (2022). Intention and behavior toward bringing your own shopping bags in Vietnam: integrating theory of planned behavior and norm activation model. *Journal of Social Marketing*, *12*(4), 395-419.

- Nguyen, T. P. L. (2025). Big Five personality traits and food waste reduction behaviors: the mediating roles of environmental concern and knowledge. *Management of Environmental Quality: An International Journal*.

- Nikiforova, A., Clarinval, A., Zuiderwijk, A., Rudmark, D., Milic, P., & Rajamäe-Soosaar, K. (2024). Innovation Resistance Theory in Action: Unveiling Barriers to Open Government Data Adoption by Public Organizations to Unlock Open Data Innovation. *arXiv preprint arXiv:2407.10883*.

- Nowicki, S. T. E. P. H. E. N., & Duke, M. P. (2016). Foundations of locus of control. *Perceived control: Theory, research, and practice in the first 50 years*, 147-170.

- Okada, T., Tamaki, T., & Managi, S. (2019). Effect of environmental awareness on purchase intention and satisfaction pertaining to electric vehicles in Japan. *Transportation Research Part D: Transport and Environment*, *67*, 503-513.

- Onwezen, M. C., Antonides, G., & Bartels, J. (2013). The Norm Activation Model: An exploration of the functions of anticipated pride and guilt in pro-environmental behaviour. *Journal of economic psychology*, *39*, 141-153.

- Panlaqui, C. C., & Abad, C. (2024). ZERO KILOMETER FOOD PROJECT: AN ANALYSIS OF FOOD DEMAND AND SUPPLY STRUCTURE OF HIGH-VALUE CROPS.

- Parashar, S., Singh, S., & Sood, G. (2023). Examining the role of health consciousness, environmental awareness and intention on purchase of organic food: A moderated model of attitude. *Journal of Cleaner Production*, *386*, 135553.

- Petty, R. E., Briñol, P., Loersch, C., McCaslin, M. J., Leary, M. R., & Hoyle, R. H. (2009). The need for cognition. *Handbook of individual differences in social behavior*, *318*, 329.

- Petty, R.E. and Cacioppo, J.T. (1986) The Elaboration Likelihood Model of Persuasion. Advances in Experimental Social Psychology, 19, 123-205. http://dx.doi.org/10.1016/S0065-2601(08)60214-2

- Pietzsch, N., Ribeiro, J. L. D., & de Medeiros, J. F. (2017). Benefits, challenges and critical factors of success for Zero Waste: A systematic literature review. *Waste management*, *67*, 324-353.

- Popovic, I., Bossink, B. A., & van Der Sijde, P. C. (2019). Factors influencing consumers' decision to purchase food in environmentally friendly packaging: What do we know and where do we go from here?. *Sustainability*, *11*(24), 7197.

- Precedence Research, 2024 https://www.precedenceresearch.com/zero-waste-packaging-market

- Prelikova, E. A., Belyakova, O. I., Grachev, S. V., & Kopylov, M. R. (2022, July). Development and implementation of a new format of eco-shops "Without packaging–zero waste". In *IOP Conference Series: Earth and Environmental Science* (Vol. 1061, No. 1, p. 012042). IOP Publishing.

- Qazzafi, S. H. E. I. K. H. (2019). Consumer buying decision process toward products. *International Journal of Scientific Research and Engineering Development*, *2*(5), 130-134.

- Rafiq, F., Chishty, S. K., & Adil, M. (2022). Explanatory or dispositional optimism: which trait predicts eco-friendly tourist behavior?. *Sustainability*, *14*(5), 2994.

- Raghu, S. J., & Rodrigues, L. L. (2022). Solid waste management behavior among the student community: integrating environmental knowledge and situational factors into the theories of planned behavior and value belief norm. *Journal of Environmental Planning and Management*, *65*(10), 1842-1874.

- Ram, S., & Sheth, J. N. (1989). Consumer resistance to innovations: the marketing problem and its solutions. *Journal of consumer marketing*, *6*(2), 5-14.

- Rambandara, R. D. S. S., & Dilanthi, M. G. S. Purchase Intentions of the University Students toward Green Products: A Literature Review.

- Rauthmann, J. F. (2020). Situational factors. *Encyclopedia of personality and individual differences*, 4950-4954.

- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological monographs: General and applied*, *80*(1), 1.

- Sajid, M., Zakkariya, K. A., & Ertz, M. (2024). Beyond the bin: overcoming the intention–behavior gap in zero-waste living. *Management of Environmental Quality: An International Journal*, *35*(3), 587-609.

- Sang, Y., Yu, H., & Han, E. (2022). Understanding the barriers to consumer purchasing of zero-waste products. *Sustainability*, *14*(24), 16858.

- Săplăcan, Z., & Márton, B. (2019). Determinants of adopting a zero waste consumer lifestyle. *Regional and Business Studies*, *11*(2), 25-39.

- Schlosberg, D. (2020). From postmaterialism to sustainable materialism: the environmental politics of practice-based movements. *Environmental Politics*.

- Schwartz, S. H. (1977). Normative Influence on Altruism. In L. Berkowitz (Ed.), Advances in Experimental Social Psychology (Vol. 10, pp. 221-279). New York: Academic Press. http://dx.doi.org/10.1016/s0065-2601(08)60358-5

- Senger, P., & Özülkü, E. (2018). German Generation Y's PurchaseIntention towards Packaging-Free Products: A TPB Approach.

- See, Y. H. M., & Petty, R. E. (2007). The need for cognition. In R.F. Baumeister & K. D. Vohs (Eds), Encyclopediaof social psychology (pp. 611-613). Thousand Oaks, CA: Sage Publications.

- Setiawan, B. (2021). Personal norm and pro-environmental consumer behavior: an application of norm activation theory. *ASEAN Marketing Journal*, *13*(1), 40-49.

- Setiawan, B., Afiff, A. Z., & Heruwasto, I. (2020). Integrating the theory of planned behavior with norm activation in a pro-environmental context. *Social Marketing Quarterly*, *26*(3), 244-258.

- Setiawan, M. H., & Rizkalla, N. (2024). Exploring Attitude and Behavior Towards Shopping at Zero-Waste Store: An intra-personal and external factors approach. *Environment-Behaviour Proceedings Journal*, *9*(SI19), 39-44.

- Sharma, N., Lal, M., Goel, P., Sharma, A., & Rana, N. P. (2022). Being socially responsible: how green self-identity and locus of control impact green purchasing intentions?. *Journal of Cleaner Production*, *357*, 131895.

- Silvi, M., & Padilla, E. (2021). Pro-environmental behavior: Social norms, intrinsic motivation and external conditions. *Environmental Policy and Governance*, *31*(6), 619-632.

- Song, Q., Li, J., & Zeng, X. (2015). Minimizing the increasing solid waste through zero waste strategy. Journal of Cleaner Production, 104, 199-210.

- Soto, C. J., & Jackson, J. J. (2013). Five-factor model of personality. *Journal of Research in Personality*, *42*, 1285-1302.

- Soutter, A. R. B., Bates, T. C., & Mõttus, R. (2020). Big Five and HEXACO personality traits, proenvironmental attitudes, and behaviors: A meta-analysis. *Perspectives on Psychological Science*, *15*(4), 913-941.

- Statista (2024) https://www.statista.com/statistics/916625/global-generation-of-municipal-solid-waste-forecast/

- Steg, L. (2016). Values, norms, and intrinsic motivation to act proenvironmentally. *Annual Review of Environment and Resources*, *41*(1), 277-292.

- Steg, L., Lindenberg, S., & Keizer, K. (2016). Intrinsic motivation, norms and environmental behaviour: the dynamics of overarching goals. *International Review of Environmental and Resource Economics*, *9*(1-2), 179-207.

- Stern, P. (2000). Toward a Coherent Theory of Environmentally Significant Behavior. The Journal of Social Issues, 56, 407-424. https://doi.org/10.1111/0022-4537.00175.

- 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*, 81-97.

- Sun, Y., Wang, S., Gao, L., & Li, J. (2018). Unearthing the effects of personality traits on consumer's attitude and intention to buy green products. *Natural Hazards*, *93*, 299-314.

- Swami, V., Chamorro-Premuzic, T., Snelgar, R., & Furnham, A. (2011). Personality, individual differences, and demographic antecedents of self-reported household waste management behaviours. *Journal of Environmental Psychology*, *31*(1), 21-26.

- Szász, T., Hlédik, E., & Táskai, O. (2024). The Impact of Environmental Consciousness and Health Awareness on the Brand-relationship quality–An examination of Community of Package-Free Stores in Hungary.

- Tencati, A., Pogutz, S., Moda, B., Brambilla, M., & Cacia, C. (2016). Prevention policies addressing packaging and packaging waste: Some emerging trends. *Waste management*, *56*, 35-45.

- Trafimow, D., Sheeran, P., Conner, M., & Finlay, K. A. (2002). Evidence that perceived behavioural control is a multidimensional construct: Perceived control and perceived difficulty. *British journal of social psychology*, *41*(1), 101-121.

- Trivedi, R. H., Patel, J. D., & Savalia, J. R. (2015). Pro-environmental behaviour, locus of control and willingness to pay for environmental friendly products. *Marketing Intelligence & Planning*, *33*(1), 67-89.

- Trubetskaya, A., Scholten, P. B. V., & Corredig, M. (2022). Changes towards more sustainable food packaging legislation and practices. A survey of policy makers and stakeholders in Europe. *Food Packaging and Shelf Life*, *32*, 100856.

- Tsao, W. C., & Chang, H. R. (2010). Exploring the impact of personality traits on online shopping behavior. *African journal of business management*, *4*(9), 1800.

- Valentin, A. P. M. (2021). Predicting sustainable consumption of package-free bath products among students in higher education institutions. *International Journal of Sustainability in Higher Education*, *22*(7), 1753-1768.

- Van Der Linden, S. (2015). Intrinsic motivation and pro-environmental behaviour. *Nature Climate Change*, *5*(7), 612-613.

- Villalobos, M. J. M. (2021). Green consumption: The impact of trust and pessimism.

- Vinkóczi, T., Rácz, É. H., & Koltai, J. P. (2024). Exploratory analysis of zero waste theory to examine consumer perceptions of sustainability: A covariance-based structural equation modeling (CB-SEM). *Cleaner Waste Systems*, *8*, 100146.

- Wardhana, D. Y. (2022). Environmental Awareness, Sustainable Consumption and Green Behavior Amongst University Students. *Review of Integrative Business and Economics Research*, *11*, 242-252.

- Wilson, D. C., Rodic, L., Modak, P., Soos, R., Carpintero, A., Velis, K., ... & Simonett, O. (2015). *Global waste management outlook*. UNEP.

- Witek, L., & Kuźniar, W. (2020). Green purchase behavior: The effectiveness of sociodemographic variables for explaining green purchases in emerging market. *Sustainability*, *13*(1), 209.

- Woo, S. E., Chernyshenko, O. S., Longley, A., Zhang, Z. X., Chiu, C. Y., & Stark, S. E. (2014). Openness to experience: Its lower level structure, measurement, and cross-cultural equivalence. *Journal of personality assessment*, *96*(1), 29-45.

- Wu, A. D., & Zumbo, B. D. (2008). Understanding and using mediators and moderators. *Social Indicators Research*, *87*, 367-392.

- Wuertz, T. (2015). *Personality traits associated with environmental concern* (Doctoral dissertation, Walden University).

- Xu, L., Prybutok, V., & Blankson, C. (2019). An environmental awareness purchasing intention model. *Industrial Management & Data Systems*, *119*(2), 367-381.

- Yadav, R., & Pathak, G. S. (2016). Young consumers' intention towards buying green products in a developing nation: Extending the theory of planned behavior. *Journal of cleaner production*, *135*, 732-739.

- Zaman, A. (2022). Zero-waste: a new sustainability paradigm for addressing the global waste problem. In *The Vision Zero Handbook: Theory, Technology and Management for a Zero Casualty Policy* (pp. 1195-1218). Cham: Springer International Publishing.

- Zaman, A., & Ahsan, T. (2019). *Zero-waste: reconsidering waste Management for the Future*. Routledge.

- Zhuang, W., Luo, X., & Riaz, M. U. (2021). On the factors influencing green purchase intention: A meta-analysis approach. *Frontiers in Psychology*, *12*, 644020.

ANNEXES.

Annex 1. Master thesis summary

<div align="center">

Factors influencing a buyer's intention to purchase in "zero waste" shops.

Matas Gabriūnas

Master Thesis

Marketing and Integrated Communications

Faculty of Economics and Business Administration of Vilnius University

Supervisor – lecturer / assoc. prof. / prof Ignas Zimaitis

Vilnius, 2026

Summary

</div>

50 pages, 18 tables, 149 references, 21 annexes

The purpose of this master thesis is to determine the factors that drive consumers to purchase from zero-waste stores and to provide conclusions and suggestions based on collected data.

The thesis consists of 3 main parts: literature analysis, research and analysis of data, and conclusions and recommendations.

The literature analysis focuses on highlighting the risks that pollution brings and could bring in the future, and some movements, including "zero'—waste", that are beginning to gain more importance, implemented to prevent environmental issued from happening. After analyzing definition of zero-waste, the thesis presents intention to purchase and other theoretical models used to analyze similar topics in the past. Moreover, some variables utilized in previous research have also been presented and analyzed in this thesis.

After the literature analysis, the author developed a new research model and developed the hypothesis to be analyzed. To analyze them, he has developed a research questionnaire that was distributed, via convenience sampling, across different online platforms, where 185 Lithuanian respondents provided their answers to understand what factors affect the intention to purchase from zero-waste stores. Collected data was analyzed via SPSS to confirm or reject the hypothesis developed by the author.

In conclusions and recommendations, the author proposed several suggestions, or insights, that marketing agencies, or companies that implement the use of zero-waste stores could use to better target the factors that are affecting intention to purchase from zero-waste stores, in order to gain more advantage and increase intention to purchase in package free shops.

Veiksniai, darantys įtaką pirkėjo ketinimui pirkti „nulinio atliekų kiekio"(angl. zero waste) parduotuvėse.

Matas Gabriūnas

Magistro baigiamasis darbas

Rinkodara ir integruota komunikacija (anglų k.)

Vilniaus Universiteto Ekonomikos ir verslo administravimo fakultetas

Darbo vadovas – lekt. / asist. / doc. / prof. Ignas Zimaitis

Vilnius, 2026

Santrauka

50 puslapiai, 18 lentelių, 149 literatūros šaltiniai, 21 priedai.

Šio magistro darbo tikslas – nustatyti veiksnius, kurie skatina vartotojus pirkti nulinės atliekų (angl. zero-waste) parduotuvėse, bei, remiantis surinktais duomenimis, pateikti išvadas ir pasiūlymus.

Darbą sudaro trys pagrindinės dalys: literatūros analizė, tyrimas ir duomenų analizė bei išvados ir rekomendacijos.

Literatūros analizėje daugiausia dėmesio skiriama taršos keliamiems ir ateityje galimiems pavojams bei judėjimams, įskaitant „zero-waste" judėjimą, kurie vis labiau įgauna svarbą ir yra diegiami siekiant užkirsti kelią aplinkosauginėms problemoms. Išanalizavus nulinės atliekų koncepcijos apibrėžimą, darbe pristatomas pirkimo ketinimas ir kiti teoriniai modeliai, naudoti analizuojant panašias temas ankstesniuose tyrimuose. Taip pat pateikiami ir išanalizuojami kai kurie ankstesniuose tyrimuose naudoti kintamieji, kurie taikomi ir šiame darbe.

Po literatūros analizės autorius sukūrė naują tyrimo modelį ir suformulavo hipotezes, kurios buvo analizuojamos. Joms patikrinti buvo parengta tyrimo anketa, kuri patogiosios atrankos metodu buvo išplatinta įvairiose internetinėse platformose. Tyrime dalyvavo 185 Lietuvos respondentai, kurių atsakymai padėjo nustatyti veiksnius, darančius įtaką ketinimui pirkti nulinės atliekų parduotuvėse. Surinkti duomenys buvo analizuojami naudojant SPSS programą, siekiant patvirtinti arba atmesti autoriaus suformuluotas hipotezes.

Išvadose ir rekomendacijose autorius pateikia keletą pasiūlymų ir įžvalgų, kurias rinkodaros agentūros ar įmonės, taikančios nulinės atliekų parduotuvių koncepciją, galėtų panaudoti siekdamos geriau orientuotis į veiksnius, darančius įtaką ketinimui pirkti nulinės atliekų

parduotuvėse, taip įgyjant konkurencinį pranašumą ir didinant pirkimo ketinimą pakuočių neturinčiose parduotuvėse.

Annex 2. Questionnaire of research

Hello, I am Matas Gabriunas, a Master's student of Marketing and Integrated Communications at Vilnius University. I kindly invite you to participate in this questionnaire meant to explore the key factors that influence consumers' intention to purchase from zero-waste shops, which are considered as retail stores that promote sustainable consumption by eliminating the use of packaging packaging.

The collected responses will be and remain anonymous, and they will solely be utilized for research purposes.

Your participation in this survey is highly appreciated and it would only take around 10 minutes of your time to submit the responses.

1. Which of these two images best represents a zero-waste store (a store that does not utilize packaging)?

Option 1   Option 2

2. Which of these two images best represents a zero-waste store (a store that does not utilize packaging)?

Option 1   Option 2

3. Please evaluate the following statements about yourself using scale of 1 - 7, where 1 means strongly disagree and 7 means strongly agree.

	1	2	3	4	5	6	7
I have frequent mood swings.							
I am relaxed most of the time.							
I get upset easily.							
I seldom feel blue.							

4. Please evaluate the following statements about yourself using scale of 1 - 7, where 1 means strongly disagree and 7 means strongly agree.

	1	2	3	4	5	6	7
I feel amazing and exciting with the form of nature and art.							
I am willing to try the new food or foreigner food.							
I am open to new experiences.							

5. Please evaluate the following statements about yourself scale of 1 - 7, where 1 means strongly disagree and 7 means strongly agree.

	1	2	3	4	5	6	7
It is comfortable when I am around people.							
I start conversations in most situations.							
I am willing to talk to numbers of different people at parties.							

6. Please evaluate the following statements about yourself using scale of 1 - 7, where 1 means strongly disagree and 7 means strongly agree.

	1	2	3	4	5	6	7
I am compassionate for others.							
I sympathize with others' emotion.							

	1	2	3	4	5	6	7
I have a soft heart.							

7. Please evaluate the following statements about yourself using scale of 1 - 7, where 1 means strongly disagree and 7 means strongly agree.

	1	2	3	4	5	6	7
I will try my best to complete my job.							
I will carry out my promise when I make one.							
Sometimes I can't be reliable or trusted.							

8. Please evaluate the following statements about your environmental awareness using scale of 1 - 7, where 1 means strongly disagree and 7 means strongly agree.

	1	2	3	4	5	6	7
I am very knowledgeable about environmental issues.							
Compared to the average person, I am more familiar with issues related to the environment.							
I know how to select vehicles that produce the least carbon emissions.							

9. Please evaluate the following statements about your attitudes towards zero-waste lifestyle using scale of 1 - 7, where 1 means strongly disagree and 7 means strongly agree.

	1	2	3	4	5	6	7
I like the idea of zero-waste lifestyle.							
Adopting zero-waste lifestyle is a good idea.							
I have a favorable attitude toward adopting zero-waste lifestyle.							

10. Please evaluate the following statements about your intention to purchase from zero-waste shops using scale of 1 - 7, where 1 means strongly disagree and 7 means strongly agree.

	1	2	3	4	5	6	7

I intend to purchase in Zero-waste shops in the near future.							
I will try to purchase in zero-waste shops in the near future.							
I will make an effort to purchase in zero-waste shops in the near future.							

11. Please evaluate the following statements about your green intrinsic motivation using scale of 1 - 7, where 1 means strongly disagree and 7 means strongly agree.

	1	2	3	4	5	6	7
I enjoy accepting new green ideas and products.							
I enjoy solving environmental problems through green measures.							
I enjoy searching for green products that are completely new.							
I enjoy giving feedback to improve existing green products.							
I feel excited when I have green products.							

12. Please evaluate the following statements about your green extrinsic motivation using scale of 1 - 7, where 1 means strongly disagree and 7 means strongly agree.

	1	2	3	4	5	6	7
I feel motivated by the recognition I earn from people when adopting green products.							
I often think about discounts, gifts, and prizes when buying green products.							

I have to feel that I am saving something from my green purchases.							

13. Please state your gender:

Male

Female

Other

14. Please state your age:

18-24

25-34

35-44

45+

15. Your average monthly net income (after taxes):

1000€ and less

1001€ - 1500€

1501€ - 2000€

2001€ and more

Annex 3. Scale descriptive analysis

Descriptives

			Statistic	Std. Error
Neuroticism	Mean		4,2544	,07522
	95% Confidence Interval for Mean	Lower Bound	4,1063	
		Upper Bound	4,4024	
	5% Trimmed Mean		4,2778	
	Median		4,5000	
	Variance		1,612	
	Std. Deviation		1,26982	
	Minimum		1,00	
	Maximum		7,00	

	Range		6,00	
	Interquartile Range		2,00	
	Skewness		-,312	,144
	Kurtosis		-,335	,288
Openness to experience	Mean		5,8409	,06174
	95% Confidence Interval for Mean	Lower Bound	5,7194	
		Upper Bound	5,9625	
	5% Trimmed Mean		5,9425	
	Median		6,0000	
	Variance		1,087	
	Std. Deviation		1,04235	
	Minimum		1,00	
	Maximum		7,00	
	Range		6,00	
	Interquartile Range		1,33	
	Skewness		-1,522	,144
	Kurtosis		3,468	,288
Extraversion	Mean		4,6129	,08963
	95% Confidence Interval for Mean	Lower Bound	4,4364	
		Upper Bound	4,7893	
	5% Trimmed Mean		4,6621	
	Median		5,0000	
	Variance		2,290	
	Std. Deviation		1,51319	
	Minimum		1,00	
	Maximum		7,00	
	Range		6,00	
	Interquartile Range		2,00	
	Skewness		-,461	,144
	Kurtosis		-,453	,288
Agreeableness	Mean		5,9287	,07045
	95% Confidence Interval for Mean	Lower Bound	5,7900	
		Upper Bound	6,0673	
	5% Trimmed Mean		6,0728	
	Median		6,0000	
	Variance		1,415	

	Std. Deviation		1,18941	
	Minimum		1,00	
	Maximum		7,00	
	Range		6,00	
	Interquartile Range		1,33	
	Skewness		-1,701	,144
	Kurtosis		3,351	,288
Conscientiousness	Mean		5,5591	,06651
	95% Confidence Interval for Mean	Lower Bound	5,4282	
		Upper Bound	5,6900	
	5% Trimmed Mean		5,6374	
	Median		5,6667	
	Variance		1,261	
	Std. Deviation		1,12280	
	Minimum		1,67	
	Maximum		7,00	
	Range		5,33	
	Interquartile Range		1,67	
	Skewness		-,829	,144
	Kurtosis		,437	,288
Environmental awareness	Mean		4,8468	,08454
	95% Confidence Interval for Mean	Lower Bound	4,6804	
		Upper Bound	5,0132	
	5% Trimmed Mean		4,9048	
	Median		5,0000	
	Variance		2,037	
	Std. Deviation		1,42726	
	Minimum		1,00	
	Maximum		7,00	
	Range		6,00	
	Interquartile Range		2,00	
	Skewness		-,770	,144
	Kurtosis		-,188	,288
Attitides towards ZWS	Mean		5,7579	,07587
	95% Confidence Interval for Mean	Lower Bound	5,6086	
		Upper Bound	5,9072	

	5% Trimmed Mean		5,8941	
	Median		6,0000	
	Variance		1,640	
	Std. Deviation		1,28075	
	Minimum		1,00	
	Maximum		7,00	
	Range		6,00	
	Interquartile Range		2,00	
	Skewness		-1,367	,144
	Kurtosis		1,990	,288
Intention to purchase	Mean		5,1778	,09247
	95% Confidence Interval for Mean	Lower Bound	4,9958	
		Upper Bound	5,3598	
	5% Trimmed Mean		5,2960	
	Median		5,6667	
	Variance		2,437	
	Std. Deviation		1,56108	
	Minimum		1,00	
	Maximum		7,00	
	Range		6,00	
	Interquartile Range		1,67	
	Skewness		-1,001	,144
	Kurtosis		,416	,288
Intrinsic motivation	Mean		4,8554	,09159
	95% Confidence Interval for Mean	Lower Bound	4,6752	
		Upper Bound	5,0357	
	5% Trimmed Mean		4,9339	
	Median		5,2000	
	Variance		2,391	
	Std. Deviation		1,54624	
	Minimum		1,00	
	Maximum		7,00	
	Range		6,00	
	Interquartile Range		2,00	
	Skewness		-,666	,144
	Kurtosis		-,336	,288
Extrinsic motivation	Mean		4,9322	,08735

	95% Confidence Interval for Mean	Lower Bound	4,7602	
		Upper Bound	5,1041	
	5% Trimmed Mean		4,9906	
	Median		5,0000	
	Variance		2,175	
	Std. Deviation		1,47464	
	Minimum		1,00	
	Maximum		7,00	
	Range		6,00	
	Interquartile Range		2,00	
	Skewness		-,552	,144
	Kurtosis		-,459	,288

Annex 4. Normality testing

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Neuroticism	,108	285	<,001	,982	285	<,001
Openness to experience	,182	285	<,001	,866	285	<,001
Extraversion	,110	285	<,001	,961	285	<,001
Agreeableness	,222	285	<,001	,807	285	<,001
Conscientiousness	,135	285	<,001	,931	285	<,001
Environmental awareness	,150	285	<,001	,925	285	<,001
Attitides towards ZWS	,214	285	<,001	,844	285	<,001
Intention to purchase	,167	285	<,001	,892	285	<,001
Intrinsic motivation	,108	285	<,001	,942	285	<,001
Extrinsic motivation	,125	285	<,001	,944	285	<,001

a. Lilliefors Significance Correction

Annex 5. Regression analysis H1

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2,533	1	2,533	1,245	,266[b]
	Residual	575,999	283	2,035		

Total	578,532	284	

a. Dependent Variable: Environmental awareness

b. Predictors: (Constant), Neuroticism

Annex 6. Regression analysis H2

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,380[a]	,144	,141	1,32261

a. Predictors: (Constant), Openness to experience

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	83,482	1	83,482	47,723	<,001[b]
	Residual	495,050	283	1,749		
	Total	578,532	284			

a. Dependent Variable: Environmental awareness

b. Predictors: (Constant), Openness to experience

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,809	,447		4,049	<,001
	Openness to experience	,520	,075	,380	6,908	<,001

a. Dependent Variable: Environmental awareness

Annex 7. Regression analysis H3

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,436[a]	,190	,187	1,28685

a. Predictors: (Constant), Extraversion

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	109,888	1	109,888	66,358	<,001[b]
	Residual	468,644	283	1,656		
	Total	578,532	284			

a. Dependent Variable: Environmental awareness
b. Predictors: (Constant), Extraversion

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2,951	,245		12,046	<,001
	Extraversion	,411	,050	,436	8,146	<,001

a. Dependent Variable: Environmental awareness

Annex 8. Regression analysis H4

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,336[a]	,113	,110	1,34642

a. Predictors: (Constant), Agreeableness

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	65,497	1	65,497	36,129	<,001[b]
	Residual	513,035	283	1,813		
	Total	578,532	284			

a. Dependent Variable: Environmental awareness
b. Predictors: (Constant), Agreeableness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2,453	,406		6,040	<,001
	Agreeablenes s	,404	,067	,336	6,011	<,001

a. Dependent Variable: Environmental awareness

Annex 9. Regression analysis H5

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,201[a]	,040	,037	1,40072

a. Predictors: (Constant), Conscientiousness

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	23,283	1	23,283	11,867	<,001[b]
	Residual	555,249	283	1,962		
	Total	578,532	284			

a. Dependent Variable: Environmental awareness
b. Predictors: (Constant), Conscientiousness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3,429	,420		8,169	<,001
	Conscientiousne ss	,255	,074	,201	3,445	<,001

a. Dependent Variable: Environmental awareness

Annex 10. Regression analysis H6

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,620[a]	,384	,382	1,00664

a. Predictors: (Constant), Environmental awareness

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	179,077	1	179,077	176,721	<,001[b]
	Residual	286,773	283	1,013		
	Total	465,850	284			

a. Dependent Variable: Attitides towards ZWS
b. Predictors: (Constant), Environmental awareness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,061	,211		14,479	<,001
	Environmental awareness	,556	,042	,620	13,294	<,001

a. Dependent Variable: Attitides towards ZWS

Annex 11. Regression analysis H7

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,660[a]	,436	,434	1,17433

a. Predictors: (Constant), Environmental awareness

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	301,831	1	301,831	218,868	<,001[b]
	Residual	390,273	283	1,379		
	Total	692,104	284			

a. Dependent Variable: Intention to purchase
b. Predictors: (Constant), Environmental awareness

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,677	,247		6,799	<,001
	Environmental awareness	,722	,049	,660	14,794	<,001

a. Dependent Variable: Intention to purchase

Annex 12. Regression analysis H8

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,778[a]	,605	,603	,98344

a. Predictors: (Constant), Attitides towards ZWS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	418,401	1	418,401	432,615	<,001[b]
	Residual	273,702	283	,967		
	Total	692,104	284			

a. Dependent Variable: Intention to purchase
b. Predictors: (Constant), Attitides towards ZWS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		

1	(Constant)	-,279	,269		-1,038	,300
	Attitides towards ZWS	,948	,046	,778	20,799	<,001

a. Dependent Variable: Intention to purchase

Annex 13. Mediation analysis H9

```
  Model: 4
      Y: Int2buy
      X: Neur
      M: Envaware

Sample
Size:  285


*************************************************************************

OUTCOME VARIABLE:
 Envaware

Model Summary
         R         R-sq        MSE          F         df1         df2          p
     ,0662       ,0044      2,0353     1,2446     1,0000   283,0000       ,2655


Model
            coeff         se          t          p        LLCI        ULCI
constant    5,1632       ,2960    17,4460       ,0000      4,5807      5,7457
Neur        -,0744       ,0667    -1,1156       ,2655     -,2056       ,0569


*************************************************************************
************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
    Effect         se          t          p        LLCI        ULCI
    -,0907       ,0729    -1,2452       ,2141     -,2342       ,0527

Direct effect of X on Y
    Effect         se          t          p        LLCI        ULCI
    -,0372       ,0551     -,6755       ,4999     -,1456       ,0712

Indirect effect(s) of X on Y:
            Effect     BootSE    BootLLCI    BootULCI
Envaware    -,0536       ,0524     -,1569       ,0491
```

Annex 14. Mediation analysis H10

```
*************************************************************************
  Model: 4
     Y: Int2buy
     X: Op2exp
     M: Envaware

Sample
Size:  285

*************************************************************************

OUTCOME VARIABLE:
 Envaware

Model Summary
        R         R-sq        MSE          F         df1         df2          p
     ,3799        ,1443     1,7493    47,7234      1,0000    283,0000       ,0000

Model
             coeff         se          t          p        LLCI        ULCI
constant    1,8087       ,4467     4,0489      ,0001       ,9294      2,6880
Op2exp       ,5201       ,0753     6,9082      ,0000       ,3719       ,6683

*************************************************************************
*************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
      Effect          se          t          p        LLCI        ULCI
       ,6736        ,0795     8,4709      ,0000       ,5170       ,8301

Direct effect of X on Y
      Effect          se          t          p        LLCI        ULCI
       ,3481        ,0694     5,0180      ,0000       ,2115       ,4846

Indirect effect(s) of X on Y:
             Effect      BootSE    BootLLCI    BootULCI
Envaware      ,3255       ,0560       ,2154       ,4347
```

Annex 15. Mediation analysis H11

```
   Model: 4
      Y: Int2buy
      X: Extrav
      M: Envaware

Sample
Size:  285

*************************************************************************

OUTCOME VARIABLE:
 Envaware

Model Summary
          R        R-sq        MSE          F        df1        df2          p
      ,4358       ,1899     1,6560     66,3580     1,0000   283,0000       ,0000

Model
             coeff         se          t          p        LLCI        ULCI
constant    2,9505       ,2449    12,0458       ,0000     2,4684      3,4327
Extrav       ,4111       ,0505     8,1460       ,0000      ,3117       ,5104

*************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y ***************

Total effect of X on Y
     Effect         se          t          p        LLCI        ULCI
      ,5084       ,0534     9,5278       ,0000      ,4034       ,6134

Direct effect of X on Y
     Effect         se          t          p        LLCI        ULCI
      ,2611       ,0488     5,3455       ,0000      ,1649       ,3572

Indirect effect(s) of X on Y:
            Effect      BootSE    BootLLCI    BootULCI
Envaware     ,2473       ,0427       ,1682       ,3365
```

Annex 16. Mediation analysis H12

```
Model: 4
    Y: Int2buy
    X: Agree
    M: Envaware

Sample
Size:  285

*************************************************************************

OUTCOME VARIABLE:
 Envaware

Model Summary
          R         R-sq        MSE          F         df1         df2          p
      ,3365       ,1132      1,8128     36,1292      1,0000    283,0000       ,0000

Model
              coeff         se          t          p         LLCI        ULCI
constant     2,4530       ,4061      6,0398       ,0000      1,6536      3,2525
Agree         ,4038       ,0672      6,0108       ,0000       ,2715       ,5360

************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
      Effect          se          t          p         LLCI        ULCI
       ,6664       ,0672      9,9138       ,0000       ,5341       ,7987

Direct effect of X on Y
      Effect          se          t          p         LLCI        ULCI
       ,4226       ,0570      7,4110       ,0000       ,3103       ,5348

Indirect effect(s) of X on Y:
              Effect      BootSE     BootLLCI    BootULCI
Envaware       ,2438       ,0489       ,1534       ,3469
```

Annex 17. Mediation analysis H13

```
Model: 4
    Y: Int2buy
    X: Conscien
    M: Envaware

Sample
Size:  285

**************************************************************************

OUTCOME VARIABLE:
 Envaware

Model Summary
         R        R-sq        MSE          F        df1        df2          p
     ,2006       ,0402     1,9620    11,8667     1,0000   283,0000       ,0007

Model
             coeff         se          t          p       LLCI       ULCI
constant    3,4292       ,4198     8,1686      ,0000     2,6029     4,2555
Conscien     ,2550       ,0740     3,4448      ,0007      ,1093      ,4007


************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
     Effect         se          t          p       LLCI       ULCI
      ,4460       ,0783     5,6971      ,0000      ,2919      ,6001

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI
      ,2728       ,0613     4,4461      ,0000      ,1520      ,3935

Indirect effect(s) of X on Y:
             Effect     BootSE    BootLLCI    BootULCI
Envaware      ,1732      ,0620      ,0512       ,2949
```

Annex 18. Moderation analysis H14

```
Model Summary
          R        R-sq        MSE          F         df1         df2           p
       ,8359       ,6988       ,7418    217,3180     3,0000    281,0000        ,0000


Model
              coeff         se          t           p         LLCI        ULCI
constant     5,2830       ,0591     89,4589       ,0000      5,1668      5,3993
Envaware      ,2496       ,0475      5,2499       ,0000       ,1560       ,3432
IntMot        ,6096       ,0424     14,3797       ,0000       ,5261       ,6930
Int_1        -,0784       ,0222     -3,5392       ,0005      -,1221      -,0348


Product terms key:
 Int_1    :          Envaware x          IntMot


Test(s) of highest order unconditional interaction(s):
       R2-chng          F          df1          df2           p
X*W        ,0134     12,5261      1,0000     281,0000        ,0005
----------
    Focal predict: Envaware (X)
          Mod var: IntMot    (W)


Conditional effects of the focal predictor at values of the moderator(s):

     IntMot      Effect         se          t           p         LLCI        ULCI
    -1,5462       ,3709       ,0492      7,5324       ,0000       ,2740       ,4678
      ,0000       ,2496       ,0475      5,2499       ,0000       ,1560       ,3432
     1,5462       ,1283       ,0667      1,9241       ,0554      -,0030       ,2595
```


85

Annex 19. Moderation analysis H15

```
Model Summary
          R         R-sq        MSE          F         df1         df2           p
      ,8573       ,7350       ,6527   259,7642      3,0000    281,0000        ,0000

Model
              coeff          se           t           p        LLCI        ULCI
constant     5,2372       ,0567     92,3603       ,0000      5,1256      5,3488
Attitd        ,4620       ,0609      7,5901       ,0000       ,3422       ,5818
IntMot        ,5058       ,0434     11,6494       ,0000       ,4204       ,5913
Int_1        -,0430       ,0220     -1,9541       ,0517      -,0864       ,0003

Product terms key:
 Int_1    :         Attitd    x        IntMot

Test(s) of highest order unconditional interaction(s):
       R2-chng          F         df1         df2           p
X*W       ,0036      3,8185      1,0000    281,0000        ,0517
----------
    Focal predict: Attitd   (X)
          Mod var: IntMot   (W)

Conditional effects of the focal predictor at values of the moderator(s):

      IntMot      Effect          se           t           p        LLCI        ULCI
    -1,5462       ,5285       ,0525     10,0690       ,0000       ,4252       ,6318
      ,0000       ,4620       ,0609      7,5901       ,0000       ,3422       ,5818
     1,5462       ,3954       ,0835      4,7352       ,0000       ,2310       ,5598
```
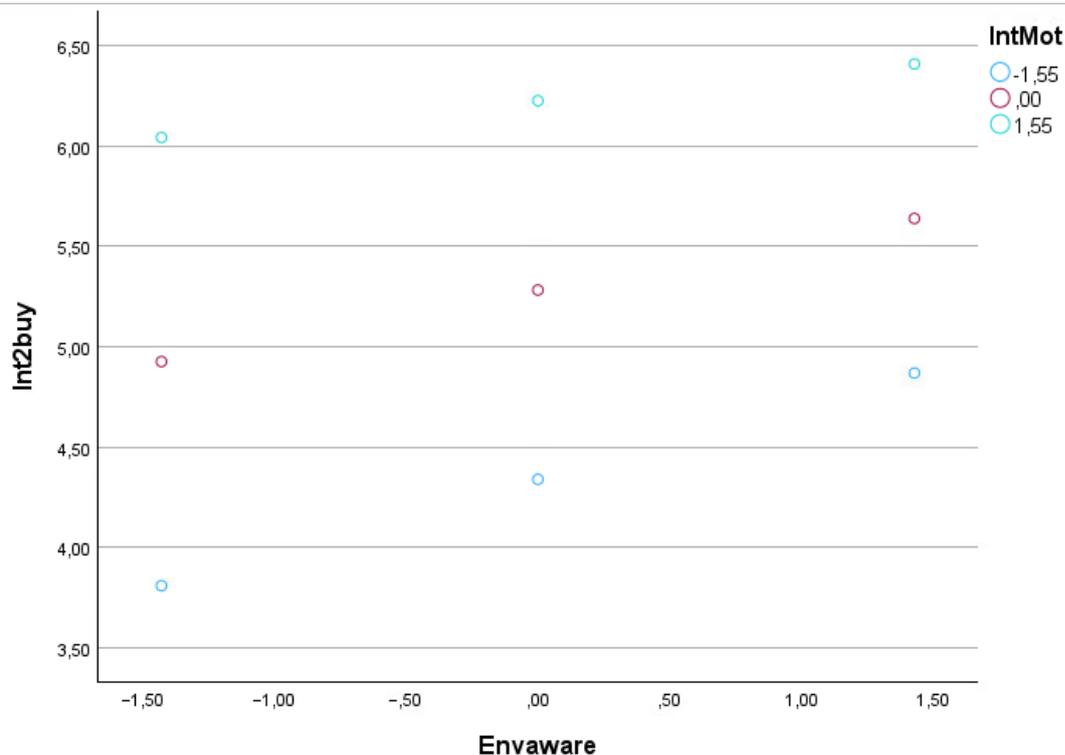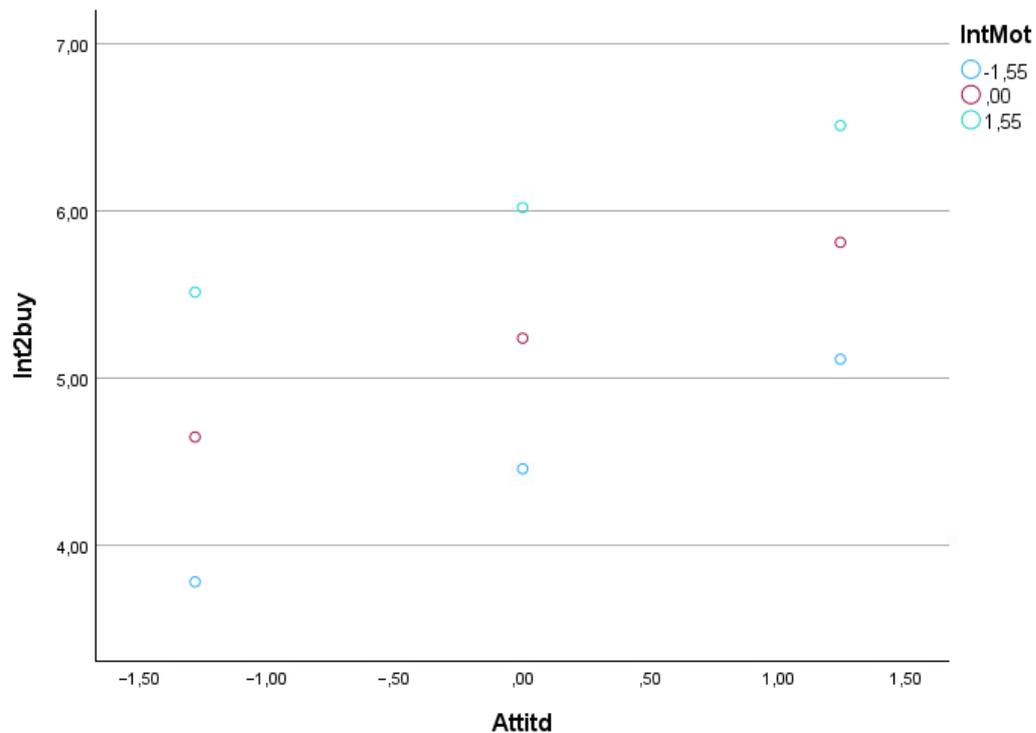
Annex 20. Moderation analysis H16

```
Model Summary
          R        R-sq        MSE          F         df1         df2           p
      ,6876       ,4728     1,2985     84,0054      3,0000    281,0000       ,0000


Model
             coeff         se           t           p        LLCI        ULCI
constant    5,2517       ,0734     71,5750       ,0000      5,1073      5,3962
EnvAwar      ,5956       ,0554     10,7514       ,0000       ,4865       ,7046
J1           ,1658       ,0521      3,1798       ,0016       ,0632       ,2684
Int_1       -,0771       ,0300     -2,5705       ,0107      -,1361      -,0181


Product terms key:
 Int_1      :         EnvAwar   x         J1


Test(s) of highest order unconditional interaction(s):
       R2-chng          F         df1         df2           p
X*W        ,0124     6,6074      1,0000    281,0000       ,0107
----------
    Focal predict: EnvAwar   (X)
          Mod var: J1        (W)


Conditional effects of the focal predictor at values of the moderator(s):

          J1      Effect         se           t           p        LLCI        ULCI
     -1,4746       ,7093       ,0607     11,6892       ,0000       ,5898       ,8287
       ,0000       ,5956       ,0554     10,7514       ,0000       ,4865       ,7046
      1,4746       ,4819       ,0798      6,0386       ,0000       ,3248       ,6390
```
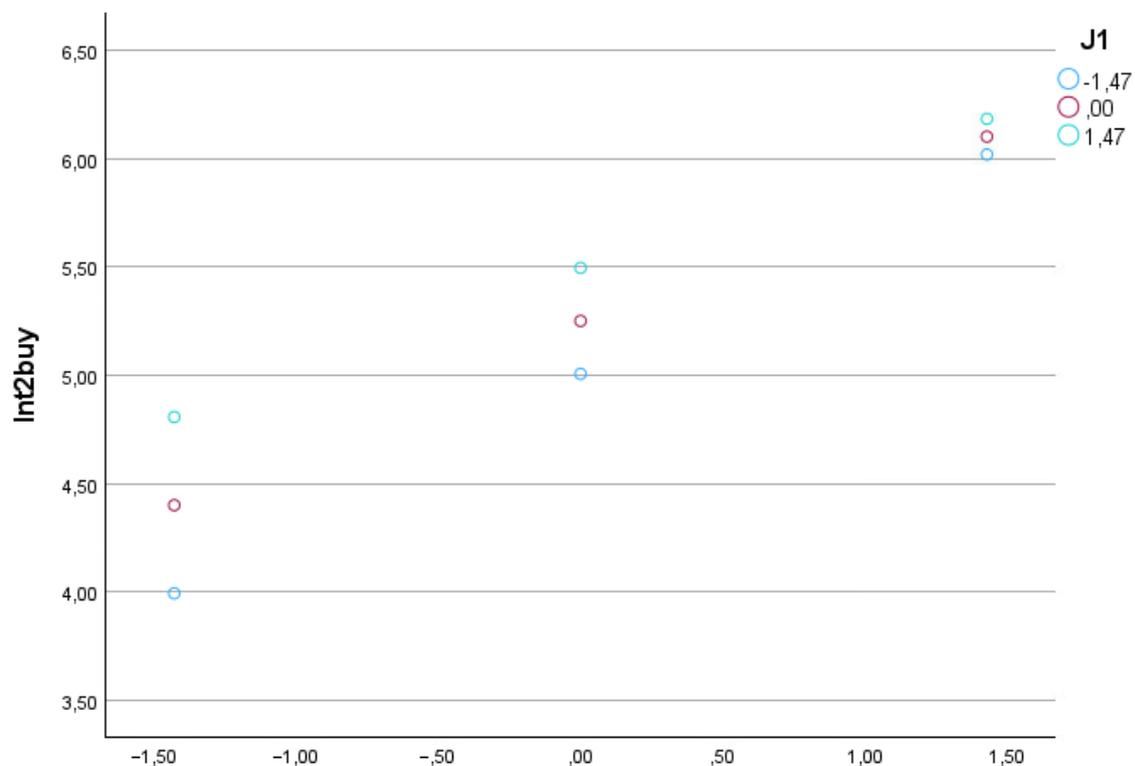

87

Annex 21. Moderation analysis H17

```
Model Summary
          R         R-sq        MSE           F          df1          df2            p
       ,7882       ,6212       ,9330    153,5987      3,0000     281,0000        ,0000

Model
              coeff          se           t           p         LLCI         ULCI
constant     5,2070       ,0618     84,2715       ,0000       5,0854       5,3286
Attitd        ,8489       ,0548     15,4859       ,0000        ,7410        ,9568
J1            ,1395       ,0430      3,2437       ,0013        ,0548        ,2241
Int_1        -,0364       ,0291     -1,2524       ,2115       -,0936        ,0208

Product terms key:
 Int_1    :        Attitd    x         J1

Test(s) of highest order unconditional interaction(s):
       R2-chng          F          df1          df2            p
X*W      ,0021      1,5685       1,0000     281,0000        ,2115
```