MSc Thesis
Marketing and International Business

“Just trash, me and you. It’s in everything we do”
Environmental concern and consumer behavior
in relation to food packaging

Ingunn Sigurðardóttir

Supervisor: Auður Hermannsdóttir, adjunct professor
School of Business
May 2018
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This thesis is a 30 ECTS credits final project toward a MSc degree in Marketing and International Business at the School of Business, Department of Social Sciences, University of Iceland.

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Printing: Háskólaprent
Reykjavík, 2018
Prologue

This thesis is a 30 ECTS final project for a MSc degree in Marketing and International Business at the School of Business at the University of Iceland.

First and foremost, I would like to thank my supervisor, Auður Hermannsdóttir, for all her help getting me through this process. I couldn’t have completed this project without her guidance, endless support and patience. I would also like to thank family and friends who helped me along the way, especially my friend, Alda Júlíya Magnúsdóttir, for her company during the process. Last but least, I’m so grateful for my husband, Philip Barkhudarov, for all the proofreading, his patience, and for cheering me on; and for also laughing at me at the right times when things got grim. It put things in perspective.
Abstract

The environment has been a controversial subject of discussion for a long time. Many disagree about whether the state of the environment is as serious as news agencies, academics, or policymakers globally make it out to be. Increased consumer awareness of environmental issues has become apparent, as consumers gradually call for solutions from both policymakers and companies to decrease environmental impact.

The objective of this research was to explore Icelandic consumer behavior in relation to food packaging; to see whether a relationship exists between consumer environmental concern and behavior with regards to purchasing and recycling food packaging. To do this, we based our framework on Ajzen’s Theory of planned Behavior and adapted it to increase predictability. The data were obtained through an electronic quantitative survey, with 303 responses received.

The results indicated that environmental concern does correlate to values and beliefs Icelandic consumers might have; that is, if consumers perceive that they have a moral obligation toward the environment, or if consumers perceive individuals important to them to be exhibiting behaviors of either purchasing environmentally friendly packaged food products or recycling food packaging, then they themselves are likelier to purchase products in environmentally friendly packaging and recycling packaging. The results also showed that if consumers perceive that they have control over their recycling behavior, they’re more likely to participate in recycling. However, the same cannot be said of their purchasing behavior and provides an opportunity for further research.

The study’s contribution was twofold: a theoretical analysis provided a deeper understanding of which factors predict pro-environmental consumer behavior. The practical contribution was mostly for policymakers – since consumers are exhibiting increasing environmental concern, policymakers can further increase awareness of environmental issues among the public, which can lead to more pro-environmental behavior.
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1 Introduction

These days, we hear news reports on a daily basis about the extreme effects of human actions on the environment. Whether it’s David Attenborough pointing out the effect of human behavior on the oceans (Carrington, 2017), the non-consenting Pepsi-tattooed lobster recently washed ashore in New Brunswick (Kassam, 2017), or the seahorse that grabbed onto a Q-tip by the coast of Indonesia (Bever, 2017), these are problems that humanity needs to deal with to ensure that life can thrive on the planet in the long term.

World leaders have taken various steps in the direction of a more sustainable future, some examples being the Circular Economy initiative (European Commission, 2018a) and the Paris Agreement to fight climate change, signed in 2016 (European Commission, 2018b). Also in 2016, the United Nations published its Sustainable Development Goals (SDGs), which consist of 17 goals that governments, businesses, and communities around the globe can adopt to achieve sustainability by 2030 (United Nations, n.d.b). Countries have also started to put regulations on packaging waste, e.g. France passed a law in 2016 that all single-use plastic cutlery needs to consist of at least 50% biologically sourced materials by 2020 (Culbertson, 2016). The Nordic countries are often at the top of the list when it comes to sustainability (Korosec, 2013), and according to the SDG index, Sweden ranks the highest (Bertelsmann Stiftung & Sustainable Development Solutions Network, 2017). This action by policymakers puts pressure on organizations and the public to review their consumption patterns and take steps towards adapting their behavior to a more sustainable one.

Environmental concern can be seen as a driver of environmentally friendly behavior. Various research around the globe indicates consumer preference for environmentally friendly packaging (Birgelen, Semeijn, & Keicher, 2009; Koenig-Lewis, Palmer, Dermody & Urbye, 2014; Rokka & Uusitalo, 2008), and companies have felt pressure to optimize their procedures when it comes to environmental concern, for example by using tools such as Corporate Social Responsibility (Martínez, Fernández, & Fernández, 2016).
Icelandic consumer awareness regarding environmental issues is on the rise, as shown by the increased action taken by consumers when it comes to disposal of household waste (Gallup, 2017b). Waste disposal regulations are in place in Iceland (Lög um meðhöndlun úrgangs nr. 55/2003), while responsible consumer behavior is less discussed in relation to purchase of environmentally packaged food products.

Packaging plays a vital role in delivering products to consumers in their preferred state (Lindh, Olsson & Williams, 2016; Rundh, 2005), leaving consumers with the responsibility of disposing of it by recycling, thus showing responsible consumer behavior. Packaging is also known to impact the environment at all stages of its life cycle (Klöpffer, 2014), leading to new initiatives regarding sustainable packaging (Sustainable Packaging Coalition, 2011), often due to increased environmental concern (Moser, 2015; Prakash & Pathak, 2017). With this in mind, the objective of this research is to explore Icelandic consumer purchasing and recycling behavior of food packaging from the perspective of environmental concern. Do consumers worry about the state of the environment and do they work towards relieving the environment of these issues?

To measure this, we adapt Ajzen’s (1991) measurement tool, Theory of Planned Behavior. The model consists of three value/belief constructs: **Attitude**, **Subjective Norm**, and **Perceived Behavioral Control**. **Attitude** refers to individual positive/negative evaluations regarding a certain object, which in turn might affect their behavior. **Subjective Norm** refers to social pressures individuals might perceive, pressuring them into a certain behavior. **Perceived Behavioral Control** refers to whether individuals perceive that they’re able to exhibit the behavior in question (Chen & Tung, 2014; East, Singh, Wright & Vanhuele, 2017). These constructs have been shown to accurately predict consumer intentions and behavior, making the framework one of the most successful models for predicting behavior (East et al., 2017). In this research, the tool is expanded with three additional constructs to gain a better understanding of the feelings and values behind consumer purchasing and recycling behavior from an environmental perspective. To predict these two types of pro-environmental behavior, we add two normative constructs to the model, **Moral Norm** and **Descriptive Norm**, both of which have previously been found to accurately predict pro-environmental behavior (Chen & Tung, 2014; Moser, 2015; White, Smith, Terry, Greenslade, & McKimmie, 2009). We also add the construct **Environmental Concern** to the model, to see if it functions as an
antecedent of environmental behavior. Previous research has shown it to be an indirect influence on other constructs that predict behavior (Bamberg, 2003; Chen & Tung, 2014).

In the following discussion, we first analyze environmental awareness from three viewpoints – from a public perspective, a private perspective, and from a consumer perspective – and we examine how these three pillars of society work towards protecting the environment. Next, we explore packaging and recycling in Iceland, and how increased consumers awareness can contribute to environmental protection. Then, we explain the behavior prediction models, and how model adaptations are used to predict certain behaviors, in our case pro-environmental behavior. We will also look into difference by gender, age, monthly income, and education.

This research will answer the following questions:

- Does Environmental Concern among Icelandic consumers predict their Purchasing Behavior of food products in environmentally friendly packaging?
- Does Environmental Concern among Icelandic consumers predict their Recycling Behavior of food packaging?

The value of this research is to gain insight into how Icelandic consumers sense environmental issues, and whether that is reflected in their purchasing behavior and recycling behavior. This insight on consumer values and behavior can be valuable to food companies, as it could provide them with opportunities to re-evaluate business strategies with added green initiatives in mind. It could also provide companies with increased market knowledge that they could use for further market segmentation and to position company/brand with new target groups in mind, i.e. green buyers.

This research can also be useful for Icelandic policymakers, as it could provide information on whether environmental concern is likely to lead consumers to exhibit environmental behavior. If that is the case, Icelandic policymakers can use this information to further educate the public on environmental issues, creating more awareness among the public, which in turn would lead to improved environmental behavior.

Other potential benefits of this research are for non-governmental organizations, as the results might shed light on current consumer knowledge of how certain behaviors impact the environment, and current consumer behavior regarding the environment.
Awareness of environmental issues is on the rise, as publicity and societal discourse on how everyday behavior influences the environment gradually increases. This is apparent when looking at the amount of academic studies (Bamberg, 2003; Chen & Tung, 2014; Dunlap & Jones, 2002; Koenig-Lewis et al., 2014; Thøgersen, 1999), the global level of news reporting on environmental issues, (The Guardian, 2018; BBC, n.d.; Science Daily, n.d.), or the number of non-governmental agencies that work on increasing awareness of environmental issues among policymakers, private organizations, and consumers (Climate Action Network International, n.d.; Greenpeace, n.d; Landvernd, n.d.; Seeds, n.d.). Despite this, human actions continue on a path of economic and social growth at the cost of the environment, and often this harm cannot easily be undone (Almeida, Cruz, Barata, & García-Sánchez, 2017; Matarsóun, n.d.; Umhverfisstofnun, n.d.).

Dunlap and Jones (2002) defined environmental concern as “the degree to which people are aware of problems regarding the environment and support efforts to solve them and/or indicate a willingness to contribute personally to their solution” (p. 485). Environmental concern, as Dunlap and Jones (2002) stated, is a complex issue, as the environment is a multifaceted phenomenon comprised of different elements, i.e. air, land, and water, and human behavior can impact these elements in many different ways. Due to this complexity, research about environmental concern needs to be as specific as possible, that is it should be concentrated on one aspect of environmental issues. This study explores whether environmental concern is a driving factor behind environmentally friendly consumer behavior. Consumers can contribute to environmental issues in several ways. For one, awareness of their actions is crucial: whether they display responsible behavior with their purchasing decisions, choose sustainable products when possible, and eliminate their packaging waste by recycling (United Nations, 2016). To understand whether environmental concern drives Icelandic consumers to purchase environmentally friendly packaged food products or to recycle packaging, we present a theoretical overview of the parties involved, i.e. what policymakers, organizations, and consumers do to mitigate environmental issues.
2.1 Policymakers and the Environment

The most common way policymakers and governments are working towards environmental protection is by reinforcing sustainable development (Klöpffer, 2014). The term sustainability can be seen as a defining term for the 21st century, where sustainability is connected to problems the global community hasn’t been able to resolve, such as climate change and pollution (Buerke, Straatmann, Lin-Hi, & Müller, 2017). Sustainable development and the ideology behind it have their origins in the Bruntland Report, colloquially known as Our Common Future (WCED, 1987). Published in 1987, it indicates that the goal of sustainable development is “to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987). The Brundtland Report might be one of the earliest publications to call for action regarding sustainable development. Sustainable development usually comprises of three intersecting aspects for achieving this goal; economic, social, and environmental. See Figure 1.

![Figure 1. The Three Spheres of Sustainable Development](image)

Economic benefits relate to increased profit, social benefit refers to increased rights for individuals in all parts of society to have equal opportunities, and environmental benefit refers to maintenance and protection of the environment itself, such that
human actions won’t affect earth for the worse (Martínez et al., 2016; Ploum, Blok, Lans & Omta, 2018).

Some of the first recycling legislation in Europe was adopted by Germany in the early nineties (Thøgersen, 1996). The German recycling initiative was later implemented in other EU countries, and an EU directive was also passed. In Iceland, a federal statute on bottle deposits was passed in 1989, where individuals receive a payback when returning single use drinking containers of plastic, aluminum, and glass (Endurvinnslan, n.d.). A federal statute on waste management in Iceland was put in place in 2003, with further additions on recycling added later (Lög um meðhöndlun úrgangs nr. 55/2003). A Green Economy plan was adopted in 2012, where environmental protection is on par with economic gain (Alþingi, 2011), but as these plans are subject to the political parties in power (Umhverfisráðuneytið, 2012), not much has been heard of it since governmental change in 2013. Responsible waste disposal is a part of basic service provided by all municipalities in Iceland, as it’s thought to have profitable, social, and environmental gain (Umhverfis- og skipulagssvið Reykjavíkurborgar, n.d.). As of 2017, it has been made mandatory for companies in Reykjavík to recycle at least paper, as around 60% of all paper waste came from companies, not households (Reykjavík, 2017).

In recent years, governmental initiatives that seek to encourage more sustainable lifestyles have been increasing. Examples of this include the European Commission's initiative Circular Economy, which works towards eliminating the waste stream by increasing the recyclability and reuse of material. The initiative is aimed at consumers, organizations, and global policymakers (European Commission, 2018a). The Environmental Agency of Iceland has adopted this and encourages organizations and individuals alike to partake in “closing the loop” by giving what was before considered waste a new life as a marketable product (Umhverfisstofnun, 2018b). See Figure 2.
Another initiative are the Sustainable Development Goals (SDGs), published by the United Nations in January 2016. These are 17 goals that countries around the globe can utilize to reinforce sustainable development, aimed to be achieved by 2030. While they're not legally binding, the goals rely on policymakers and governments globally to participate in the objective (United Nations, n.d.b). Goal #12 concentrates on responsible consumption and production (United Nations, n.d.a). The goal is a call to action for both businesses and consumers. Businesses are encouraged to provide solutions that encourage sustainable consumption and lifestyles. Consumers can mainly contribute by eliminating food and plastic waste and by being aware of buying decisions and choosing sustainable products when possible (United Nations, 2016).

A 2017 report, Global Responsibilities: International spillovers in achieving the goals, provides info on worldwide progress and where each country ranks on the SDGs (SDG Index and Dashboards Report, 2017). The report shows that the countries that rank the highest on the Index, still have a low score on at least one out of the 17 goals. Of all countries listed in the report, Iceland ranks number 14 overall, with a score of 79.3 out of 100. While Iceland ranks relatively high on the Index, other Nordic countries occupy the top four places of the Index, with Sweden ranking on top, so it appears Iceland is somewhat behind its Nordic neighbors. Despite Iceland being overall ahead of the curve regarding the SDGs, it scores only average in comparison with other countries in relation to goal #12, responsible consumption and production (51.8 out of 100; Bertelsmann Stiftung & Sustainable Development Solutions Network, 2017). In contrast
to this, a recent research by Umhverfisstofnun (2018a) on food waste and its impact in Iceland illustrates that 81% of respondents felt increased discussion of food waste. It can be interpreted that while public knowledge on the environmental impact of waste and consumption has grown in Iceland in the past years, Icelanders are slow in adapting and exhibiting this behavior.

2.2 Organizations and the Environment

Companies are often seen to bear the main responsibility for anti-environmental behavior, as shareholder profit often takes precedence over responsible corporate behavior (Buerke et al., 2017; Kotler, Wong, Saunders, & Armstrong, 2005). The social pressure organizations are under is there for a reason, as stories about unethical company behavior surface regularly (Martínez et al., 2016). Buerke et al. (2017) stated that companies have often played their part in maintaining unsustainable lifestyles, e.g. with pollution or unfair business methods, and therefore companies are increasingly practicing Corporate Social Responsibility due to consumer demand. Fernandez-Feijoo, Romero, and Ruiz (2014) stated that companies around the globe have acknowledged the need for socially responsible behavior and that business activities should exhibit both ethical and sustainable business behavior. Martínez et al. (2016) claim environmental issues have created social pressure for organizations to obtain more balanced expectations for profit in the long term, and state that the key tool for meeting environmental expectations is Corporate Social Responsibility. In its simplest terms, Corporate Social Responsibility is the stakeholder demand for companies to live up to certain social and ethical obligations, while still maintaining profit (Bryane, 2003; Buerke et al., 2017; González-Rodríguez, Díaz-Fernández, & Simonetti, 2015; Sen & Bhattacharya, 2004). Sen and Bhattacharya (2001) showed that consumers evaluate companies positively, if the company adheres to the same ethical and social norms as they adhere to. The reasons companies have for behaving socially responsibly are either due to state regulations making it mandatory for companies to exhibit this behavior, or that they have adapted tools such as Corporate Social Responsibility to tackle social demands (Verghese, Horne, & Carre, 2010). Corporate Social Responsibility has been shown to increase company competitiveness due to increased environmental concerns among consumers (Martínez et al., 2016) and may lead to increased consumer purchase.
behavior (Becker-Olsen, Cudmore, & Hill, 2006). Furthermore, Kotler et al. (2005) indicate that social responsibility is central to company marketing initiatives, as they are after all there to serve and satisfy the consumer.

There has not been much research on Corporate Social Responsibility or pro-environmental initiatives among Icelandic companies. The Icelandic Center for Corporate Social Responsibility, Festa, claims on their website to be working towards increasing awareness among companies and consumers on Corporate Social Responsibility in Iceland. 93 companies are listed as operating socially responsibly, with a few of them being companies in the food industry (Festa, n.d.).

Some food companies in Iceland mention their social responsibility initiatives on company websites (e.g. MS, n.d.; HB Grandi, n.d.; Ölgerðin, n.d.), and in some cases it is stated on product packaging (e.g. milk cartons from the dairy manufacturer MS have a green label). However, research by Sigurðsson (2017) showed that consumers feel that environmentally friendly packaging is inadequately labeled overall. Grocery stores around Iceland have taken initiatives in promoting pro-environmental awareness at both pre- and post-purchase stages (e.g. Bónus, n.d.; Krónan, n.d.; Samkaup, n.d.). These include reducing food waste by discounting produce and reducing plastic use by offering more environmentally friendly solutions. These initiatives are very recent and can be interpreted as a new action to meet the pro-environmental demands by consumers (Birgelen et al., 2009; Koenig-Lewis et al., 2014; Rokka & Uusitalo, 2008) or as a reaction to increased publicity globally about plastic waste (i.e. Bever, 2017; Carrington, 2017; Kassam, 2017).

Recent news reports on company waste disposal in Iceland paint a different picture, reporting that the majority of unrecycled waste comes from companies, with most of it consisting of paper and plastic (Jónsson, 2018). News reports like these clearly indicate that there’s an overall lack of information on pro-environmental initiatives by Icelandic companies. Some initiatives are in place, but to understand whether consumers are absorbing this information needs further research.

2.3 Consumers and the Environment

Environmental concern is a feeling people experience when they are aware of environmental problems and how they work towards solving/contributing to their
solution (Dunlap & Jones, 2002). Environmental concern can therefore be seen as a general attitude that indirectly impacts a specific behavior (Bamberg, 2003; Chen & Tung, 2014). If individuals have concerns regarding the environment, the likelihood of them exhibiting environmentally friendly behavior increases. According to Birgelen et al. (2009), consumers that exhibit environmentally friendly behavior in one part of their life are likely to adapt that behavior to other parts as well, i.e. if consumers recycle, they are more likely to also purchase environmentally friendly packaging. Buerke et al. (2017) stated that if consumers perceive that they have the ability to make a difference to environmental consequences, they can be motivated to behave more pro-environmentally. Research by Buerke et al. (2017) found a positive correlation between consumer awareness and responsible consumer behavior. These consumers can be seen as the so-called green consumers – the ones that avoid products that cause harm to the environment and adapt their consumer lifestyle to a more sustainable one (Prakash & Pathak, 2017). Moser (2015) looked at green purchasing behavior and found that the strongest predictors of green behavior were consumer willingness to pay and the personal moral obligation they felt for engaging in the behavior. However, Thøgersen (1999) claimed that consumers often don’t see the connection between their buying decisions and the environmental issues that they might impact. Recent research also shows that despite environmental concern, knowledge doesn’t always lead to pro-environmental behavior (Landry, Gifford, Milfont, Weeks, & Arnocky, 2018; Tam & Chan, 2017).

A recent Gallup survey conducted on Icelandic consumers focused on their view on the environment and climate change (2017b). The results indicated that the majority of Icelanders worry about the effect climate change has on the environment. Furthermore, results also showed that in the preceding 12 months, 82% of respondents recycled trash, 70% had reduced plastic use, and 44% bought more environmentally friendly products (Gallup, 2017b). These results show a high number of the population participate in post-purchase environmental behavior, but less than half participate in purchasing behavior of environmentally friendly products. The difference between the purchase and the post-purchase behavior might be explained by Icelandic consumers’ (un)willingness to pay, as well as a possible lack of awareness about what environmentally friendly packaging and products are (Sigurðsson, 2017). In Reykjavík,
the amount of unsorted waste declined between 2015-2016, and plastic recycling by households increased by 99.6% between these years, mostly due to the fact that consumers can now request a plastic recycling bin to their homes (Reykjavík, 2017). This shows that consumer patterns regarding recycling have changed and have become a part of a daily routine.

While the Gallup survey results and the recycling data from the city of Reykjavík (2017) indicate that Icelandic consumer awareness about environmental issues is rising and that they care about what’s happening to the environment, it has also been shown that when it comes to food waste, consumer awareness has increased, while the amount of food waste has remained the same (Umhverfisstofnun, 2018a). Icelandic consumers seem to be mastering the art of recycling, but perhaps – as their level of food waste indicates – they might still need a greater understanding of the effect their purchasing behavior has on the environment.
3 Packaging

Packaging serves more roles than first meets the eye. Packaging fall under different parts of the marketing mix (Rundh, 2009), a set of tools that are used to impact the market (Kotler et al., 2005), and therefore serves an informative and a functional purpose as well as being a marketing tool, (Rundh, 2005). Packaging has often been called the “silent salesman”, as it needs to represent the product well and stand out among the crowded marketplace (Lindh et al., 2016; Vila-Lopez & Kluster-Boluda, 2016; Wells, Farley, & Armstrong, 2007). Packaging can often be the first point of contact with the brand/company for consumers, and it’s important to make a good impression on the buyer (Belch & Belch, 2004). For example, according to Solomon, Barnossy, Askegaard, and Hogg, (2010), color is a key issue in package design, as packaging color is often strongly associated with the corporate image/company and can also increase sales. Packaging can therefore dictate sales of a product due to its overall look and function, and according to Silayoi and Speece (2007), it’s estimated that 73% of consumer purchase decisions happen at the point of purchase. It can be said that packaging can make or break a product, and companies need to be aware of ongoing trends when it comes to packaging material, or the amount of packaging a product contains. Examples of this include the Icelandic ice cream maker Kjörís, which experienced a backlash when putting a once popular item back on the market and had to officially apologize for not realizing the increased awareness among consumers on issues regarding plastic, as their product packaging was made with excessive amounts of plastic (Kjörís, 2017; Nútíminn, 2017).

The logistical role of packaging is a vital one as it’s one the product often cannot be without (Fitzpatrick, Lewis, & Verghese, 2012). It is a way to transport a product through the production level to the consumer, protecting the product from damage with the assistance of the material used for the packaging, in the consumer’s preferred state of quality. Packaging has also been shown to limit food waste, which has been found to lessen environmental impact (Lindh et al., 2016; Williams & Wikström, 2011). A Life Cycle Assessment (LCA) is a valuable tool to evaluate the impact of this process, as it explores the different consequences societal attitudes and behaviors can have on the environment, e.g. through packaging and disposal of waste (Klöpffer, 2014).
Packaging impacts the environment at all stages of its life cycle, from production to disposal (Fitzpatrick et al., 2012; Wikström, Williams, Verghese, & Clune, 2014). Demand for sustainability creates added complexity to the process of packaging design, as packaging sustainability requires that the packaging live up to certain criteria during the formation and disposal stages (Fitzpatrick et al., 2012). The Sustainable Packaging Coalition (2011) has listed the factors sustainable packaging consists of. These are:

- Is beneficial, safe & healthy for individuals and communities throughout its life cycle
- Meets market criteria for performance and cost
- Is sourced, manufactured, transported, and recycled using renewable energy
- Optimizes the use of renewable or recycled source materials
- Is manufactured using clean production technologies and best practices
- Is made from materials healthy throughout the life cycle
- Is physically designed to optimize materials and energy
- Is effectively recovered and utilized in biological and/or industrial closed loop cycles (p. 10)

However, this information is more aimed at organizations and policymakers, and perhaps consumers might be in the dark regarding what sustainable/environmentally friendly packaging consists of (Prakash & Pathak, 2017). Consumers do seem to have an increased demand for food/product packaging that has less negative environmental impact (Birgelen et al., 2009; Koenig-Lewis et al., 2014; Rokka & Uusitalo, 2008; Schwepker & Cornwell, 1991). Regarding packaging materials, Lindh et al. (2016) showed that consumers perceived paper packaging material to have the least impact on the environment, followed by glass. Plastic has often been perceived by consumers to have the most negative impact (Fernqvist, Olsson, & Spendrup, 2015; Lindh et al., 2016; Williams & Wikström, 2011). The research by Lindh et al. (2016) also indicates certain misconceptions among consumers, that is which packaging is environmentally friendly and how it is environmentally friendly. Verghese et al. (2010) indicated that companies should react to the demand consumers call for, which is to have an environmentally viable solution in place at all stages of the packaging life cycle.
Previous research on consumer perspective on packaging indicates that consumers perceive some obligation towards the environment and show behavioral intentions regarding environmentally friendly packaging (Buerke et al., 2017; Moser, 2015), especially if they feel concern regarding the environment (Koenig-Lewis et al., 2014; Prakash & Pathak, 2017). Rokka and Uusitalo (2008) established that the majority of Norwegian consumers preferred pro-environmental packaging.

A different picture is presented by Young (2008), as consumer preference was found to be in favor of packaging function over perceived environmental impact, quoting a marketer’s perspective that “at the end of the day, it’s the consumers decision and they are not doing anything about it” (p. 42). Similar findings are put forth by Steenis, Herpen, Lans, Ligthart, and Trijp (2017), which stated that packaging sustainability is the most noteworthy feature of packaging, but consumer attitudes indicated that many don’t really understand what about the packaging design makes it sustainable. Magnier and Schoormans (2015) showed that packaging visuals have an impact on how consumers perceive the sustainability of the packaging, and that consumers with low environmental concern tend to ignore packaging that is stated as being sustainable. Lindh et al. (2016) showed that Swedish consumers have difficulty judging what impact packaging has on the environment, and where organic food packaging stands in relation to the environment is unclear to them.

From an environmental perspective, it’s crucial that consumers fully understand the environmental impact of their purchase behavior with respect to food packaging, as their buying decision influences the setup of the marketplace. However, educating consumers about these topics can be tricky and in some cases counterintuitive. For example, while consumers often perceive (plastic) food packaging as having a negative impact on the environment, some types of packaging prevent food waste, which in turn helps the environment (Lindh et al., 2016; Williams & Wikström, 2011).

### 3.1 Recycling Packaging

Recycling is a part of the latter stages of the packaging life cycle (Verghese et al., 2010; Wikström et al., 2014) and determines whether packaging will be reused or renewed, thus completing the cycle. This role can perhaps be seen as the responsibility of the consumer, and Buerke et al. (2017) found that if consumers perceive that they’re able
to have an impact on the environment, they’re more likely to perform said behavior. Lindh et al. (2016) found that 25% of consumers tested thought recyclable packaging had the least environmental impact. However, when asked the opposite, that is what has the greatest environmental impact, only 9% perceived non-recyclable packaging as having much impact. The same research showed that consumers consider packaging to be a part of a food product until the content of the packaging has been consumed, after which the packaging is considered waste (Lindh et al., 2016). This indicates that consumers might not be aware that the packaging will always be waste, even before their purchase and whatever it is made of; and that consumers can limit the effects this packaging has on the environment already at the point of purchase, by choosing packaging that does less harm to the environment.

According to the latest annual report by Sorpa (waste management organization for greater Reykjavik area; 2016), the average waste disposal has increased in line with increased consumer purchasing, but household waste has decreased, and plastic recycling has increased by 130%. Sorpa is also working according to a 5-year goal, starting in 2015, to serve an educational role by increasing consumer awareness of waste related topics (Sorpa, 2015). This positive transformation can be seen in the aforementioned research by Gallup, where it’s indicated that 82% of respondents recycled trash and 70% had reduced plastic use (Gallup, 2017b).

Whether this change in Icelandic consumer behavior has come through education or if it comes from individual moral concern is not completely known, as the Gallup (2017b) research also indicated that only 44% bought more environmentally friendly products. While that is an impressive number, knowing what lies beneath this attitude change is what we strive to answer in this research, and whether environmental concern plays a part in it. As for Icelandic consumers, while their recycling behavior seems to be on the right track, they still need to understand how their choices and purchasing behavior also shapes our current environment in the long run, as their demand for better packaging materials would affect the supply. Last but not least, companies in the food industry need to know and understand consumer attitudes regarding packaging, as it could be vital for their scope of business.
4 Predicting Behavior

Understanding how consumers intend to behave is an important factor to marketers, as they need to be able to predict why consumers choose one product/brand over another (East et al., 2017). One of the most popular theories of predicting consumer behavior is the Theory of Planned Behavior by Ajzen (1991), as it established that intentions are likely to lead to behavior, providing companies with actionable knowledge for how to better appeal to consumers. The theory is widely used in the academic world due to its ease of use (Birgelen et al., 2009; Chen & Tung, 2014; Martinho, Pires, Portela, & Fonseca, 2015; Moser, 2015; White et al., 2009).

Ajzen’s Theory of Planned Behavior consists of three constructs that are likely to explain why consumers behave in a certain way. These constructs are rooted in the overall values or beliefs consumers have regarding an object, which in turn leads to them forming opinions that affect their behavior (East et al., 2017). These constructs are Attitude, Subjective Norm, and Perceived Behavioral Control. See model in Figure 3.

![Figure 3. Ajzen’s (1991) Theory of Planned Behavior Model](image)

**Attitude** can be defined as the beliefs or feelings individuals have regarding a behavior and how they process information about that behavior. The individual assigns an evaluation to the behavior, which generally has positive or negative attributes which the individual might then act according to, that is, performing a specific behavior (Ajzen, 1991; East et al., 2017). If people have a positive attitude towards an object, the intention of them to act on it, creating behavior, is also more positive (Chen & Tung, 2014). **Subjective Norm** is concerned with individuals' perceived social pressures from a
group important to them, that is, if the group approves or disapproves of a certain behavior, it is more likely or unlikely for the individual to engage in said behavior (Ajzen, 1991; White et al., 2009). Perceived Behavioral Control takes into account the perceived ability of an individual to perform a certain behavior and is often a major predictor of behavior (e.g. Ajzen, 1991; Chen & Tung, 2014; White et al., 2009). It depends on the obstacles/opportunities the individual perceives toward performing the behavior. The greater the obstacle the individual has to overcome, e.g. time, resources, etc., the smaller the chance of the individual to perform it, and vice versa (Chen & Tung, 2014). Therefore, Perceived Behavioral Control can have great predictive power about whether consumers sense that they can actually perform or not perform a behavior, such as buying environmentally friendly packaged products or recycling. Both behaviors come with certain obstacles: environmentally friendly packaging tends to be more expensive (Prakash & Pathak, 2017), and recycling costs effort and can be easy to skip.

However, Ajzen’s theory is not free from criticism. Koenig-Lewis et al. (2014) said the model can predict rational behavior well, but when it comes to emotional reasoning, it lacks predictive power. Ajzen (1991) has met some of this criticism by indicating that the model needs to measure the right set of variables in order to provide accurate predictions, e.g. that certain beliefs may not be explained by the constructs as they don’t have anything to do with them. For example, the Subjective Norm has received criticism for not predicting behavior well, but this may be due to it being used in the wrong context (East et al., 2017). For pro-environmental behavior and current trends regarding green consumerism, consumers might feel peer-pressured into buying environmentally friendly packaging and recycling. Martino et al. (2015) explored consumer purchasing of sustainable products and recycling in Portugal and found that the Theory of Planned Behavior model did not predict recycling behavior and recommended further research on what determines recycling behavior. Ajzen (1991) mentions that pro-environmental behavior may not stem from the perception the individuals have of how others feel they should act, but by some personal belief of how they should act. Thus, it is necessary to adapt the model to give predictive power over the behavior expected.
4.1 Adaptations of the Theory of Planned Behavior

Various adaptations exist of the Theory of Planned Behavior, as the model is contextual and needs to be modified to have predictive power over the concepts the model is supposed to predict behavior of (East et al., 2017).

Moser (2015) added the construct *Willingness to Pay* and a *Personal Norm*\(^1\) to understand what antecedents predict consumer green behavior. To reduce the variables within the *Perceived Behavioral Control* construct, *Willingness to Pay* was used, as it focuses on consumer willingness to pay a higher price for a product whose packaging has less impact on the environment. *Personal Norm* can be defined as the moral standards individuals set themselves to live up to, *i.e.* a moral obligation to partake in altruistic or environmentally friendly behavior. Moser (2015) established that *Willingness to Pay* was the strongest predictor of green purchasing behavior, followed by a *Personal Norm*. Birgelen et al. (2009) adapted the framework by adding the constructs *Social Norm* and *Awareness of the Environment*. Their main findings were that consumers are willing to let go of all product traits when it comes to environmentally friendly packaging of beverages, except price and taste. Chen and Tung (2014) conceptualized a model to predict the intention of Taiwanese consumers to visit a green hotel. They added the construct *Perceived Moral Obligation*, which is a *Personal* or a *Moral Norm*, which can be defined as the feeling of strong moral obligation to perform a certain ethical behavior, *i.e.* pro-environmental behavior (Ajzen, 1991; Chen & Tung, 2014; Moser, 2015; White et al., 2009). They also added the construct *Environmental Concern* as an antecedent that might influence the constructs and thus indirectly influence pro-environmental behavior (Chen & Tung, 2014). *Environmental Concern* shouldn’t be treated as having a direct impact on behavior as it’s not a construct that’s situation-specific but impacts other constructs (*e.g.* *Attitude*) that can predict behavior (Bamberg, 2003). See Figure 4.

\(^1\) Ajzen (1991) referred to these as either *Personal Norm* or *Moral Norm*. 
White et al. (2009) expanded the model by adding two normative belief constructs, and they measured their predictive power on recycling intention. In addition to the Subjective Norm, Personal Injunctive Norm (which is equivalent to Moral Norm), and Descriptive Norm were added to the framework to measure consumer willingness to recycle. Descriptive Norm refers to how individuals perceive people close to them performing a behavior in question, which in turn may influence the individuals to behave similarly (White et al., 2009). Both Personal Injunctive Norm and Descriptive Norm successfully increased the predictive power with respect to recycling intention.
5 Research Model

The objective of this research is to gain a better understanding of whether consumer environmental concern has any correlation with environmentally friendly behavior, that is, if consumers worry about the environment, does that feeling reflect in their behavior of purchasing environmentally friendly food packaging or recycling of food packaging.

To explore this further, the Theory of Planned Behavior is adapted and used as a guideline model for this research. Two normative constructs are added to the conceptual framework, Moral Norm and Descriptive Norm. These norms are adapted from Chen and Tung’s (2014) research and White et al. (2009). With these additional norms, we can test three normative belief constructs simultaneously and also get a better sense of their role in predicting pro-environmental behavior. The Descriptive Norm and Moral Norm were successfully used in White et al. (2009) research (they referred to Moral Norm as Personal Injunctive Norm), as they increased predictive power of recycling intentions among Australian consumers. It is therefore considered a good addition to the Theory of Planned Behavior model. According to White et al. (2009), it was previously used to predict anti-social behavior, but less used to measure selfless acts. Since White et al. (2009) used this construct to successfully predict recycling intention, perhaps it could also provide insights into consumer purchasing behavior of environmentally friendly packaged products, along with recycling behavior.

Moral Norm explores the perceived moral obligation, that is, personal feelings, and/or sense of responsibility an individual might have when confronted by a moral situation (Ajzen, 1991; Chen & Tung, 2014). Moral Norm is regarded as an essential construct of predicting pro-environmental behavior and can therefore provide more predictive power of that particular behavior (Chen & Tung, 2014; Moser, 2015; Prakash & Pathak, 2017; White et al., 2009). Last but not least, the construct Environmental Concern is added to explore the antecedent of behavior, to see if there’s any correlation between consumer environmental concern and their pro-environmental purchasing and recycling. Previous research has shown that Environmental Concern is an indirect influence on other constructs that predict behavior (Bamberg, 2003; Chen & Tung, 2014). The construct of Environmental Concern is adapted from Chen and Tung (2014).
This research seeks to test the following hypotheses, based on the constructs. 10 hypotheses are based on Chen and Tung’s (2014) research. As environmental awareness can have some spill-over effect on behavior, e.g. if people recycle food packaging due to their environmental concern, it might lead to other environmentally friendly behavior (Birgelen et al., 2009). To see if this is behavior is also present in Icelandic consumers, the last hypothesis to be tested is based on Birgelen et al. (2009) and seeks to understand if one pro-environmental behavior leads to another pro-environmental behavior. The hypotheses are:

- **H1** – If individuals have *Environmental Concern*, they will be more likely to have positive *Attitude* towards *Purchasing food products in pro-environmental packaging*
- **H2** – If individuals have *Environmental Concern*, they will be more likely to have positive *Attitude* towards *Recycling food packaging*
- **H3** – If individuals have *Environmental Concern*, they will be more likely to have positive *Subjective Norm* towards *Purchasing food products in pro-environmental packaging*
- **H4** – If individuals have *Environmental Concern*, they will be more likely to have positive *Subjective Norm* towards *Recycling food packaging*
- **H5** – If individuals have *Environmental Concern*, they will be more likely to have positive *Perceived Behavioral Control* towards *Purchasing food products in pro-environmental packaging*
- **H6** – If individuals have *Environmental Concern*, they will be more likely to have positive *Perceived Behavioral Control* towards *Recycling food packaging*
- **H7** – If individuals have *Environmental Concern*, they will be more likely to have positive *Descriptive Norm* towards *Purchasing food products in pro-environmental packaging*
- **H8** – If individuals have *Environmental Concern*, they will be more likely to have positive *Descriptive Norm* towards *Recycling food packaging*
- **H9** – If individuals have *Environmental Concern*, they will be more likely to have positive *Moral Norm* towards *Purchasing food products in pro-environmental packaging*
- **H10** – If individuals have *Environmental Concern*, they will be more likely to have positive *Moral Norm* towards *Recycling food packaging*
- **H11** – If consumers engage in one *Environmentally Friendly Behavior*, they will be more likely to engage in another *Environmentally Friendly Behavior*
The conceptual framework is presented in a model, with a corresponding number for each hypothesis. See Figure 5.

Figure 5. Conceptual Framework
6 Methodology

The adapted conceptual framework consists of eight constructs: Environmental Concern, the antecedent for the five constructs that might predict specific behavior. The predictive constructs are Attitude, Subjective Norm, Perceived Behavioral Control, Descriptive Norm, and Moral Norm. The two behavioral statements measured are Purchasing Behavior of food products in environmentally friendly packaging and Recycling Behavior of food packaging. The survey measures behavior directly instead of intention. This is to gain direct insight into consumer behavior.

6.1 Measurement

The questionnaire statements were adapted from two studies; from Chen and Tung (2014), and White et al. (2009). As mentioned before, Chen and Tung (2014) adapted Ajzen’s framework to predict consumer intention to visit green hotels. White et al. (2009) adapted Ajzen’s framework to predict recycling intention. The objective of this research is to explore consumer behavior of Icelandic consumers, in relation to their environmental concern and their purchasing of food products in environmentally friendly packaging and their food packaging recycling. As the research focuses on Icelandic consumer behavior, the survey was conducted in Icelandic. The questionnaire statements were translated and localized with the assistance of Auður Hermannsdóttir, the supervisor of this research. Before the questionnaire was launched it was pre-tested by seven individuals. Some questions were rephrased to increase readability of the survey statements.

The conceptual framework consists of eight constructs. As we’re trying to understand two types of behavior, each statement appears twice for Attitude, Subjective Norm, Perceived Behavioral Control, Descriptive Norm and Moral Norm – first in relation to Purchasing Behavior, then in relation to Recycling Behavior.

Attitude was adapted from both Chen and Tung (2014) and White et al. (2009). It consists of one statement for each behavior, with five carefully chosen evaluation terms each. The constructs Subjective Norm and Perceived Behavioral Control were adapted from Chen and Tung (2014); Subjective Norm consists of three statements for each behavior and Perceived Behavioral Control consists of four statements for each behavior. Descriptive Norm and Moral Norm were adapted from White et al. (2009),
each consisting of two statements for each behavior. We also created two statements in relation to Behavior, one for Purchasing Behavior and one for Recycling Behavior. The construct of Environmental Concern was adapted from Chen and Tung (2014) and consists of eight statements. Due to their nature, the statements for Environmental Concern were the last on the survey. For more information on all the statements, see Appendix 1.

For the majority of statements, participants were asked to evaluate each statement from how strongly they disagreed (1) to strongly agreed (7) on a seven-point Likert scale, which was created in line with results from Þórsdóttir and Jónsson (2009). There were a few exceptions to this: evaluation terms for Attitude were measured on a seven-point Likert semantic differential scale. For Descriptive Norm, one set of statements followed a different set of evaluations, as participants were asked to evaluate the number of people they think act in the specific behaviors, from almost none (1) to almost all (7). For Behavior, participants were asked to evaluate their behavior on a scale from never (1) to always (7). Participants were also asked to provide information on various background variables, that is gender, age, education, and monthly income.

6.2 Data Collection and Participants
Participants were obtained with a convenience sample via the social media platform Facebook. This approach can be rationalized by the fact that around 92% of Icelanders use the social network (Gallup, 2017a). It was shared eight times by connections the author has on Facebook, by both men and women of different ages. The author also shared the survey in six different Facebook groups, three of those being sale-platforms with large audiences of various backgrounds and ages, one group devoted to questionnaires, and the final group devoted to food related topics, which also has a large following of people of both genders and all ages. The questionnaire was conducted in Icelandic and translated to English after data collection.

The survey was launched on the 19th of March, 2018 and closed on the 27th of March. Before answering the questionnaire, the participants received information on the objective of the questionnaire and were notified that the questionnaire was anonymous. During this period, 303 responses were received, of which 76% of the
respondents were women and 24% men. See more information on participants’ background in Table 1.

Table 1. Background Information of Participants

<table>
<thead>
<tr>
<th>Background</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>23.7%</td>
</tr>
<tr>
<td>Female</td>
<td>76.3%</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
</tr>
<tr>
<td>20 years old and younger</td>
<td>1.0%</td>
</tr>
<tr>
<td>21 - 30 years old</td>
<td>32.8%</td>
</tr>
<tr>
<td>31 - 40 years old</td>
<td>26.8%</td>
</tr>
<tr>
<td>41 - 50 years old</td>
<td>13.2%</td>
</tr>
<tr>
<td>51 - 60 years old</td>
<td>13.9%</td>
</tr>
<tr>
<td>61 - 70 years old</td>
<td>10.9%</td>
</tr>
<tr>
<td>71 years old and older</td>
<td>1.3%</td>
</tr>
<tr>
<td><strong>Education completed</strong></td>
<td></td>
</tr>
<tr>
<td>Primary Education</td>
<td>10.0%</td>
</tr>
<tr>
<td>Secondary Education</td>
<td>14.0%</td>
</tr>
<tr>
<td>Apprenticeship</td>
<td>12.6%</td>
</tr>
<tr>
<td>Undergraduate University Degree</td>
<td>33.6%</td>
</tr>
<tr>
<td>Graduate University Degree</td>
<td>12.9%</td>
</tr>
<tr>
<td><strong>Income per month</strong></td>
<td></td>
</tr>
<tr>
<td>250 thousand ISK or lower</td>
<td>21.2%</td>
</tr>
<tr>
<td>251 - 350 thousand ISK</td>
<td>14.9%</td>
</tr>
<tr>
<td>351 - 450 thousand ISK</td>
<td>11.8%</td>
</tr>
<tr>
<td>451 - 550 thousand ISK</td>
<td>18.1%</td>
</tr>
<tr>
<td>551 - 650 thousand ISK</td>
<td>11.5%</td>
</tr>
<tr>
<td>651 thousand ISK and higher</td>
<td>20.1%</td>
</tr>
</tbody>
</table>
7 Results

In the following chapter the results of the survey are analyzed. First, the descriptive statistics of the survey are presented. Next, results from the factor analysis are reviewed, followed by a multiple regression analysis conducted on each construct from the factor analysis. As Environmental Concern is considered to be the antecedent of the other constructs, we look at the impact of that construct in relation to the other ones, to understand if it’s the antecedent of behavior. Then, the data is analyzed according to the background of participants, in relation to the results from the regression analysis and according to the behavioral statements.

The Descriptive Statistics of all questionnaire statements are presented in Table 2.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Questionnaire Statements</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATT1</td>
<td>To me, environmentally friendly food packaging is... 1 – Extremely bad · 7 – Extremely good</td>
<td>6.38</td>
<td>1.051</td>
<td>487</td>
</tr>
<tr>
<td>ATT2</td>
<td>1 – Extremely foolish · 7 – Extremely wise</td>
<td>6.41</td>
<td>1.077</td>
<td>422</td>
</tr>
<tr>
<td>ATT3</td>
<td>1 – Extremely undesirable · 7 – Extremely desirable</td>
<td>6.26</td>
<td>1.275</td>
<td>431</td>
</tr>
<tr>
<td>ATT4</td>
<td>1 – Extremely unfavorable · 7 – Extremely favorable</td>
<td>5.97</td>
<td>1.192</td>
<td>420</td>
</tr>
<tr>
<td>ATT5</td>
<td>1 – Extremely Useless · 7 – Extremely Useful</td>
<td>6.20</td>
<td>1.141</td>
<td>424</td>
</tr>
<tr>
<td>SN1</td>
<td>Most people who are important to me think that I should buy food products in environmentally friendly packaging</td>
<td>4.43</td>
<td>1.516</td>
<td>374</td>
</tr>
<tr>
<td>SN2</td>
<td>Most people who are important to me would want me to buy food products in environmentally friendly packaging</td>
<td>4.36</td>
<td>1.456</td>
<td>368</td>
</tr>
<tr>
<td>SN3</td>
<td>People whose opinions I value would prefer that I buy food products in environmentally friendly packaging</td>
<td>4.66</td>
<td>1.526</td>
<td>367</td>
</tr>
<tr>
<td>SN4</td>
<td>Most people who are important to me think that I should recycle food packaging</td>
<td>4.94</td>
<td>1.537</td>
<td>366</td>
</tr>
<tr>
<td>SN5</td>
<td>Most people who are important to me would want me to recycle food packaging</td>
<td>4.83</td>
<td>1.545</td>
<td>366</td>
</tr>
<tr>
<td>SN6</td>
<td>People whose opinions I value would prefer that I recycle food packaging</td>
<td>5.01</td>
<td>1.508</td>
<td>367</td>
</tr>
<tr>
<td>PBC1</td>
<td>Whether or not I buy food products in environmentally friendly packaging is completely up to me</td>
<td>5.48</td>
<td>1.584</td>
<td>334</td>
</tr>
<tr>
<td>PBC2</td>
<td>I am confident that if I want, I can buy food products in environmentally friendly packaging</td>
<td>4.15</td>
<td>1.691</td>
<td>330</td>
</tr>
<tr>
<td>PBC3</td>
<td>I have resources to buy food products in environmentally friendly packaging</td>
<td>4.98</td>
<td>1.566</td>
<td>330</td>
</tr>
<tr>
<td>PBC4</td>
<td>I have time to buy food products in environmentally friendly packaging</td>
<td>5.11</td>
<td>1.447</td>
<td>330</td>
</tr>
<tr>
<td>PBC5</td>
<td>Whether or not I recycle environmentally friendly food packaging is completely up to me</td>
<td>6.12</td>
<td>1.306</td>
<td>329</td>
</tr>
<tr>
<td>Construct</td>
<td>Statement</td>
<td>Mean</td>
<td>Std Dev</td>
<td>N</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------------------------------------------------------</td>
<td>------</td>
<td>---------</td>
<td>----</td>
</tr>
<tr>
<td>PBC6</td>
<td>I am confident that if I want, I can recycle food packaging</td>
<td>5.89</td>
<td>1.400</td>
<td>326</td>
</tr>
<tr>
<td>PBC7</td>
<td>I have resources to recycle food packaging</td>
<td>6.09</td>
<td>1.207</td>
<td>329</td>
</tr>
<tr>
<td>PBC8</td>
<td>I have time to recycle food packaging</td>
<td>5.80</td>
<td>1.430</td>
<td>330</td>
</tr>
<tr>
<td>DN1</td>
<td>People that are important to me buy food products in environmentally friendly packaging</td>
<td>3.89</td>
<td>1.228</td>
<td>317</td>
</tr>
<tr>
<td>DN2</td>
<td>People that are important to me recycle food packaging</td>
<td>4.69</td>
<td>1.366</td>
<td>317</td>
</tr>
<tr>
<td>DN3</td>
<td>How many of the people that are important to you, you think buy environmentally friendly packaged food products?</td>
<td>3.78</td>
<td>1.106</td>
<td>319</td>
</tr>
<tr>
<td>DN4</td>
<td>How many of the people that are important to you, you think recycle food packaging?</td>
<td>4.60</td>
<td>1.232</td>
<td>319</td>
</tr>
<tr>
<td>MN1</td>
<td>I feel a moral obligation to buy food products in environmentally friendly packaging</td>
<td>5.17</td>
<td>1.513</td>
<td>308</td>
</tr>
<tr>
<td>MN2</td>
<td>I buy food products in environmentally friendly packaging according to my principles</td>
<td>5.26</td>
<td>1.438</td>
<td>308</td>
</tr>
<tr>
<td>MN3</td>
<td>I feel a moral obligation to engage in recycling of food packaging</td>
<td>5.83</td>
<td>1.361</td>
<td>308</td>
</tr>
<tr>
<td>MN4</td>
<td>I recycle food packaging according to my principles</td>
<td>5.79</td>
<td>1.323</td>
<td>307</td>
</tr>
<tr>
<td>BVR1</td>
<td>How rarely or often do you buy food in environmentally friendly packaging?</td>
<td>4.40</td>
<td>1.221</td>
<td>305</td>
</tr>
<tr>
<td>BVR2</td>
<td>How rarely or often do you recycle food packaging?</td>
<td>5.63</td>
<td>1.397</td>
<td>308</td>
</tr>
<tr>
<td>EC1</td>
<td>I am extremely worried about the state of the world’s environment and what it will mean for my future</td>
<td>5.91</td>
<td>1.245</td>
<td>304</td>
</tr>
<tr>
<td>EC2</td>
<td>Mankind is severely abusing the environment</td>
<td>6.24</td>
<td>1.036</td>
<td>303</td>
</tr>
<tr>
<td>EC3</td>
<td>When humans interfere with nature it often produces disastrous consequences</td>
<td>5.16</td>
<td>1.426</td>
<td>303</td>
</tr>
<tr>
<td>EC4</td>
<td>The balance of nature is very delicate and easily upset</td>
<td>5.81</td>
<td>1.174</td>
<td>304</td>
</tr>
<tr>
<td>EC5</td>
<td>Humans must live in harmony with nature in order to survive</td>
<td>6.23</td>
<td>1.047</td>
<td>304</td>
</tr>
<tr>
<td>EC6</td>
<td>I think environmental problems are very important</td>
<td>6.23</td>
<td>1.053</td>
<td>301</td>
</tr>
<tr>
<td>EC7</td>
<td>I think environmental problems cannot be ignored</td>
<td>6.33</td>
<td>1.074</td>
<td>303</td>
</tr>
<tr>
<td>EC8</td>
<td>I think we should care about environmental problems</td>
<td>6.47</td>
<td>0.919</td>
<td>304</td>
</tr>
</tbody>
</table>

The column Constructs includes an abbreviation and number of each statement in the questionnaire. ATT refers to *Attitude*, SN refers to *Subjective Norm*, PBC refers to *Perceived Behavioral Control*, DN refers to *Descriptive Norm*, MN refers to *Moral Norm*, BVR refers to *Behavior*, and EC refers to *Environmental Concern*.

### 7.1 Factor Analysis and Validation

For the questionnaire statements regarding *Purchasing of environmentally friendly packaged products*, a principal axis factoring was conducted on the dataset. The statements for *Behavior* and *Environmental Concern* were excluded from the factor analysis, as *Environmental Concern* is an antecedent to the five value/belief constructs, and *Behavior* is the result of the five value/belief constructs. The Kaiser-Meyer-Olkin test confirmed that the sample was big enough for a factor analysis (KMO = .795). According to Field (2009), correlation less than .3 should be checked as it indicates no correlation between statements. For the construct *Perceived Behavioral Control*, almost
all statements scored lower than .3, indicating no correlation with other statements. It was left as is, as the Bartlett’s test of sphericity was significant ($p < .001$), which indicates correlation between variables (Field, 2009). Field (2009) states that correlation greater than .9 should also be checked for multicollinearity. Correlation for the *Subjective Norm* statements *Most people who are important to me think that I should buy food products in environmentally friendly packaging* and *Most people who are important to me would want me to buy food products in environmentally friendly packaging* was above .9, indicating multicollinearity. They were transformed into one statement by mean and a new analysis conducted. Oblique rotation was used as it’s assumed the factors have some correlation between them.

The pattern matrix showed that the questionnaire statements loaded on four factors. The statements for *Subjective Norm* and *Descriptive Norm* loaded on the same factor. It was decided to force factor loadings by running the analysis again but to extract five fixed factors. This was both due to the conceptual model consisting of five constructs as well as the Scree Plot showing a more definite “elbow” around factor five. The eigenvalues of total variance explained by the factors was 72.2%. For the total variation of the eigenvalues, see Table 3.

Before the statements of each factor were transformed into a single construct, the internal consistency reliability of each construct was explored with Cronbach’s Alpha. The reliability of each factor was adequate, as according to Field (2009), internal reliability should be at least .7. One construct, *Perceived Behavioral Control*, scored below that ($\alpha = .657$). It was decided to keep the construct for further testing despite this. For more information on the factor analysis see Table 3.
For the questionnaire statements regarding *Recycling of packaging*, a principal axis factoring was conducted on the dataset. The statements for *Behavior* and *Environmental Concern* were excluded from the factor analysis, as *Environmental Concern* is an antecedent to the five value/belief constructs, and *Behavior* is the result of the five value/belief constructs. According to Field (2009), correlation greater than .9 should be checked for multicollinearity. Correlation was above .9 for the *Subjective Norm* statements *Most people who are important to me think that I should recycle food packaging*, and *Most people who are important to me would want me to recycle food packaging*, so they were transformed into one statement by mean and a new analysis conducted. The Kaiser-Meyer-Olkin test confirmed that the sample was big enough for a factor analysis (KMO = .845). Bartlett’s test of sphericity was significant ($p < .001$), which

<table>
<thead>
<tr>
<th>Factors &amp; α</th>
<th>Total Variance of Eigenvalues</th>
<th>Variables</th>
<th>Factor loading</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subjective Norm</strong></td>
<td></td>
<td>People whose opinions I value would prefer that I buy food products in environmentally friendly packaging</td>
<td>.878</td>
</tr>
<tr>
<td>α = .789</td>
<td></td>
<td>Most people who are important to me think I should/would want me to buy food products in environmental packaging</td>
<td>.849</td>
</tr>
<tr>
<td><strong>Attitude</strong></td>
<td>17.2%</td>
<td>To me, environmentally friendly food packaging is extremely foolish/wise</td>
<td>-.812</td>
</tr>
<tr>
<td>α = .864</td>
<td></td>
<td>To me, environmentally friendly food packaging is extremely bad/good</td>
<td>-.791</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To me, environmentally friendly food packaging is extremely useless/useful</td>
<td>-.788</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To me, environmentally friendly food packaging is extremely undesirable/desirable</td>
<td>-.693</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To me, environmentally friendly food packaging is extremely unfavorable/favorable</td>
<td>-.599</td>
</tr>
<tr>
<td><strong>Perceived Behavioral Control</strong></td>
<td>10.3%</td>
<td>I have time to buy food products in environmentally friendly packaging</td>
<td>.608</td>
</tr>
<tr>
<td>α = .657</td>
<td></td>
<td>Whether or not I buy food products in environmentally friendly packaging is completely up to me</td>
<td>.592</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I am confident that if I want, I can buy food products in environmentally friendly packaging</td>
<td>.543</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I have resources to buy food products in environmentally friendly packaging</td>
<td>.505</td>
</tr>
<tr>
<td><strong>Moral Norm</strong></td>
<td>7.5%</td>
<td>I feel a moral obligation to buy food products in environmentally friendly packaging</td>
<td>-.821</td>
</tr>
<tr>
<td>α = .876</td>
<td></td>
<td>I buy food products in environmentally friendly packaging according to my principles</td>
<td>-.788</td>
</tr>
<tr>
<td><strong>Descriptive Norm</strong></td>
<td>5.7%</td>
<td>How many of the people that are important to you, you think buy products in environmentally friendly packaging?</td>
<td>-.770</td>
</tr>
<tr>
<td>α = .789</td>
<td></td>
<td>People that are important to me buy food products in environmentally friendly packaging</td>
<td>-.750</td>
</tr>
</tbody>
</table>
indicates correlation between variables. Oblique rotation was used as it’s assumed the factors have some correlation between them.

The pattern matrix showed that the questionnaire statements loaded on four factors. The statements for **Subjective Norm** and **Descriptive Norm** loaded on the same factor. It was decided to force factor loadings by running the analysis again to extract five fixed factors, as the conceptual model consists of five factors. This time, one questionnaire statement for **Perceived Behavioral Control** cross-loaded on two factors. It was left as is and included with other statements of **Perceived Behavioral Control**. The eigenvalues of the total variance explained by the factors was 76.8%. For information on the total variance of the eigenvalues, see Table 4.

Before the statements of each factor were transformed into a single construct, the internal consistency reliability of each construct was explored with Cronbach’s Alpha. The reliability of each factor was good (Field, 2009). For more information on the factor analysis see Table 4.

<table>
<thead>
<tr>
<th>Table 4. Factor Analysis of Recycling Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factors &amp; α &amp; Total Variance of Eigenvalues</td>
</tr>
<tr>
<td>Attitude &amp; α = .868</td>
</tr>
<tr>
<td>&amp;</td>
</tr>
<tr>
<td>&amp;</td>
</tr>
<tr>
<td>&amp;</td>
</tr>
<tr>
<td>&amp;</td>
</tr>
<tr>
<td>Subjective Norm &amp; α = .942</td>
</tr>
<tr>
<td>&amp;</td>
</tr>
<tr>
<td>Perceived Behavioral Control &amp; α = .819</td>
</tr>
<tr>
<td>&amp;</td>
</tr>
<tr>
<td>&amp;</td>
</tr>
<tr>
<td>&amp;</td>
</tr>
<tr>
<td>Moral Norm &amp; α = .898</td>
</tr>
<tr>
<td>&amp;</td>
</tr>
<tr>
<td>Descriptive Norm &amp; α = .823</td>
</tr>
<tr>
<td>&amp;</td>
</tr>
</tbody>
</table>
7.2 Correlation between Environmental Concern and the Constructs

Pearson’s correlation was conducted to understand the relationship between the antecedent of Environmental Concern and the constructs Attitude, Subjective Norm, Perceived Behavioral Control, Moral Norm, and Descriptive Norm. According to Field (2009), correlation effect between ±.10 to ±.29 is considered low, correlation between ±.30 to ±.49 is medium, and above ±.5 is good, as it accounts for the 25% of the variance.

First, the internal consistency reliability was tested on the statements for Environmental Concern. The reliability was excellent (α = .912), so the statements were transformed into one construct.

The relationship between the antecedent Environmental Concern and the five value/belief constructs in relation to Purchase with Pearson’s r. All constructs were significant, the smallest effect was found between Environmental Concern and Perceived Behavioral Control, and the highest effect between Environmental Concern and Moral Norm. For correlation coefficients, see Table 5.

<table>
<thead>
<tr>
<th>Attitude</th>
<th>Subjective Norm</th>
<th>Perceived Behavioral Control</th>
<th>Descriptive Norm</th>
<th>Moral Norm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Concern</td>
<td>r(255) = .425; p &lt; .05</td>
<td>r(292) = .342; p &lt; .05</td>
<td>r(295) = .157; p &lt; .05</td>
<td>r(294) = .243; p &lt; .05</td>
</tr>
</tbody>
</table>

The relationship between the antecedent Environmental Concern and all five value/belief constructs in relation to Recycling was tested with Pearson’s r. All constructs were significant, the smallest effect was between Environmental Concern and Descriptive Norm, and the largest effect was found between Environmental Concern and Moral Norm. For correlation coefficients, see Table 6.

<table>
<thead>
<tr>
<th>Attitude</th>
<th>Subjective Norm</th>
<th>Perceived Behavioral Control</th>
<th>Descriptive Norm</th>
<th>Moral Norm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Concern</td>
<td>r(260) = .496; p &lt; .05</td>
<td>r(291) = .365; p &lt; .05</td>
<td>r(289) = .380; p &lt; .05</td>
<td>r(295) = .227; p &lt; .05</td>
</tr>
</tbody>
</table>
These results indicate that consumer *Environmental Concern* has some relationship with value/belief constructs that can explain both *Purchasing Behavior* and *Recycling Behavior*. To fully understand the relationship between the constructs and behavior, further testing is needed.

### 7.3 Predictions of Purchasing and Recycling Behavior

To evaluate the data, the analysis of *Purchasing Behavior* is presented first. The constructs from the factor analysis, *Attitude, Subjective Norm, Perceived Behavioral Control, Descriptive Norm*, and *Moral Norm*, were used to predict for the *Behavior* statement *How rarely or often do you buy food in environmentally friendly packaging*. Then, the analysis of the *Recycling Behavior* is presented, where the constructs from the factor analysis, *Attitude, Subjective Norm, Perceived Behavioral Control, Descriptive Norm*, and *Moral Norm*, were used to predict for the *Behavior* statement *How rarely or often do you recycle food packaging*.

First some criteria were tested for the analysis of *Purchasing Behavior*: The Durbin-Watson test showed the value 2.06, which indicates almost no autocorrelation. Collinearity statistics indicated no multicollinearity, as VIF standards were from 1.1 to 1.7, and tolerance standards all higher than .2. Cook’s distance showed no residuals; the maximum value was .18, which indicated no outliers caused problems. Normality was assumed for the Histogram, as it indicated a standard distribution of the residuals as it followed a bell-shaped curve. For the Histogram and Scatterplot, see Appendix 2.

According to the *Purchasing Behavior* analysis, $R^2$ was .473, which indicated that the distribution of the five predicting constructs explained 47.3% of the distribution of the *Purchase Behavior of food products in environmentally friendly packaging*. The overall model was significant ($F(5, 252) = 45; p < .001$). Standardized coefficients of the constructs, along with the correlation coefficients between *Environmental Concern* and the five constructs, are presented in a new conceptualized framework in Figure 6.
According to Figure 6, the $\beta$-standard coefficients for Purchasing Behavior showed that two constructs had significant value, i.e. Moral Norm and Descriptive Norm. Moral Norm had a stronger positive correlation with Purchasing Behavior than Descriptive Norm. As Pearson’s $r$ between Environmental Concern and the five constructs had significant value, two hypotheses of the five presented were supported. Hypothesis 7, supports that if individuals have Environmental Concern, they will be more likely to have positive Descriptive Norm towards Purchasing food products in pro-environmental packaging. This indicates that if people important to an individual purchase food products in environmentally friendly packaging, the likelihood of the individual to engage in the same behavior increases. Hypothesis 9, if individuals have Environmental Concern, they will be more likely to have positive Moral Norm towards Purchasing food products in pro-environmental packaging, was also supported, indicating that if individuals have concerns regarding the environment, the likelihood of them following certain environmental principles and/or feeling obligated to purchase food products in environmentally friendly packaging increases. Hypothesis 1, hypothesis 3, and hypothesis 5 were not supported.

Next, a regression analysis was run for Recycling Behavior. Some criteria were tested: The Durbin-Watson test showed the value 2.1, which indicates almost no autocorrelation. Collinearity statistics indicated no multicollinearity, as VIF standards
were from 1.4 to 1.7, and tolerance standards were all higher than .2. Cook’s distance showed no residuals, as the maximum value was .12, indicating that no outliers caused problems. The Histogram indicated a standard distribution of the residuals, but it was somewhat pointier than following a bell-shaped curve. For the Histogram and Scatterplot, see Appendix 2.

The analysis of Recycling Behavior showed that $R^2$ was .445, which indicates that the distribution of the five predicting variables explain 44.5% of the distribution of the Recycling Behavior of food packaging. The overall model was significant ($F(5, 256) = 41; p < .001$). Standardized coefficients of the constructs, along with the correlation coefficients between Environmental Concern and the five constructs, are presented in the conceptualized framework in Figure 7.

According to Figure 7 the $\beta$-standard coefficients for Recycling Behavior showed that three constructs had significant value, i.e. Perceived Behavioral Control, Moral Norm, and Descriptive Norm. Moral Norm had the strongest positive correlation with Recycling Behavior. As Pearson’s $r$ between Environmental Concern and the five constructs had significant value, three hypotheses of the five presented were supported. Hypothesis 6 was supported, that is if individuals have Environmental Concern, they will be more likely to have positive Perceived Behavioral Control towards Recycling food packaging. This indicates that if individuals perceive that it’s within their ability to perform the behavior,
they will engage in recycling. Hypothesis$_8$, was supported, that if individuals have Environmental Concern, they will be more likely to have positive Descriptive Norm towards Recycling food packaging. This means that if people important to an individual engage in recycling food packaging, the likelihood of the individual engaging in the same behavior increases. Hypothesis$_{10}$, if individuals have Environmental Concern, they will be more likely to have positive Moral Norm towards Recycling food packaging, was also supported, indicating that if individuals have concerns regarding the environment, the likelihood of them following certain environmental principles and/or feeling obligated to recycle food packaging increases. Hypothesis$_2$ and hypothesis$_4$, were not supported.

To check hypothesis$_{11}$, a Pearson’s $r$ correlation was run on the two behavioral statements: How rarely or often do you buy food in environmentally friendly packaging and How rarely or often do you recycle food packaging. It proved to be significant ($r(303) = .444; p < .05$). This indicates that there’s a medium positive effect between the Purchasing Behavior and Recycling Behavior. This implies that individuals’ environmentally friendly behavior in one aspect of life has some relationship with individuals showing off environmentally friendly behavior in another aspect of life. It’s difficult to state full support for Hypothesis$_{11}$, but the results indicate partial support due to the medium positive effect.

7.4 Perceived Behavioral Control, Moral Norm, and Descriptive Norm by Background Variables

As Moral Norm and Descriptive Norm proved to be significant for both Purchasing and Recycling Behavior, along with Perceived Behavioral Control being significant for Recycling Behavior, they were explored further in relation to the background of participants; gender, age, education, and monthly income. First, the difference between genders was checked with an independent sample t-test. The results are presented in Table 7.
Table 7. Descriptive Statistics Between Gender and t-test

<table>
<thead>
<tr>
<th></th>
<th>Gender</th>
<th>M</th>
<th>SD</th>
<th>N</th>
<th>t-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase</td>
<td>Male</td>
<td>38.0</td>
<td>1.068</td>
<td>69</td>
<td>(t(290) = \frac{-1.13}{1.068}; p &gt; .05)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>38.2</td>
<td>1.038</td>
<td>223</td>
<td></td>
</tr>
<tr>
<td>Purchase</td>
<td>Male</td>
<td>48.5</td>
<td>1.549</td>
<td>70</td>
<td>(t(293) = \frac{-2.407}{1.331}; p &lt; .05)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>53.1</td>
<td>1.331</td>
<td>225</td>
<td></td>
</tr>
<tr>
<td>Recycle</td>
<td>Male</td>
<td>5.77</td>
<td>1.185</td>
<td>70</td>
<td>(t(285) = \frac{-1.834}{1.248}; p &lt; .05)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>6.04</td>
<td>1.071</td>
<td>271</td>
<td></td>
</tr>
<tr>
<td>Recycle</td>
<td>Male</td>
<td>43.3</td>
<td>.943</td>
<td>69</td>
<td>(t(148) = \frac{-3.016}{.943}; p &lt; .05)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>47.5</td>
<td>1.248</td>
<td>223</td>
<td></td>
</tr>
<tr>
<td>Recycle</td>
<td>Male</td>
<td>53.2</td>
<td>1.542</td>
<td>70</td>
<td>(t(94) = \frac{-3.280}{1.167}; p &lt; .05)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>59.8</td>
<td>1.167</td>
<td>224</td>
<td></td>
</tr>
</tbody>
</table>

Significant difference was found between genders for three constructs; for *Purchasing* it was only *Moral Norm*, and for *Recycling* it was both *Descriptive Norm* and *Moral Norm*. The results can be interpreted thus: when looking at the average mean between men and women, women have slightly higher principles and perceived obligation (*i.e.* the *Moral Norm*) towards purchase and recycling than men, and if women in general perceive the people important to them engaging in recycling of packaging (*i.e.* the *Recycling Descriptive Norm*), they’re slightly more likely to engage in that behavior as well. However, the difference between the means between men and women was not very large, so it’s only possible to talk about only a slight difference.

Spearman’s rho was separately run on *Moral Norm*, and *Descriptive Norm* regarding *Purchasing*; and on *Perceived Behavioral Control*, *Moral Norm*, and *Descriptive Norm* regarding *Recycling*, in relation to the background variables age, education, and monthly income. Only a weak correlation effect was found between age and *Descriptive Norm* in relation to *Purchasing* \(r_s(297) = .157; p < .05\). This indicates that the older the people are, the more likely they are to engage in purchasing food products in environmentally friendly packaging, if the people they care about do it. However, the correlation effect is weak.

### 7.5 Behavior and by Background Variables

The two behavior statements, *How rarely or often do you buy food in environmentally friendly packaging* and *How rarely or often do you recycle food packaging*, were tested.

First, an independent sample t-test was conducted on gender and the *Behavior* statements. The t-test was only significant for *Recycling Behavior* \(t(100) = \frac{-2.845}{1.167}; p < .05\).
.05), but the difference between men (M = 5.21; SD = 1.550; N = 70) and women (M = 5.80; SD = 1.293; N = 225) was relatively small. This can be interpreted that women overall engage slightly more in recycling than men.

Spearman’s rho was run separately on the background variables age, education, and monthly income for both behavior statements. A weak positive correlation effect was only found between age groups and Purchasing Behavior ($r_s(297) = .160; p < .05$). This indicates there’s only a small correlation between different age groups and their Purchasing Behavior of food products in environmentally friendly packaging.
8 Discussion

The objective of this thesis was to answer the following research questions, *Does Environmental Concern among Icelandic consumers predict their Purchasing Behavior of food products in environmentally friendly packaging*, and *Does Environmental Concern among Icelandic consumers predict their Recycling Behavior of food packaging*. To answer this, it’s necessary to review the literature to better understand the underlying scope of whether environmental concern does impact consumer behavior.

We started by exploring action taken from three different stakeholders regarding environmental concern; that is from a public perspective, private perspective, and from consumer perspective. First, we looked into how cross-international goals aim at tackling environmental claims, like sustainable development goals (United Nations, n.d.b) and Circular Economy by the European Commission (2018a); and how they create areas for local policymakers to action on, to promote environmental protection among companies and consumers. In relation to Iceland, a Circular Economy has been adapted (Umhverfisstofnun, 2018b), and recycling legislation has been in force for almost 30 years. Some companies in Iceland have an active Corporate Social Responsibility policy in place (Festa, n.d.), but information on how it’s executed is somewhat lacking – more information is needed on e.g. what recycling initiatives Icelandic companies have in place. Regarding consumers awareness of environmental topics, Icelandic consumers seem to be quite diligent when it comes to recycling, as shown by a new Gallup research (2017b), but less so in relation to the purchasing of environmentally friendly products.

Packaging is a powerful, multifaceted instrument which both protects the product from damage and educates consumers on its content (Lindh et al., 2016; Rundh, 2005). Previous research on packaging choice by consumers swings both ways; that is consumers prefer pro-environmental packaging (Birgelen et al., 2009; Koenig-Lewis et al., 2014; Rokka & Uusitalo, 2008), but they also seem to choose function over feature, indicating that the material of packaging is often not considered by consumers, they don’t know what makes packaging sustainable, or they look past it (Lindh et al., 2016; Magnier & Schoormans, 2015; Thøgersen, 1999; Young, 2008). It’s evident that this topic is still controversial.
To explore whether consumer environmental concern has any effect on other values they might have; and if these values would be visible in their actual purchasing and recycling behavior, Ajzen’s (1991) Theory of Planned Behavior was used as a base for the conceptual framework with three constructs added to the framework.

The results showed correlation between Environmental Concern and all value/belief constructs, i.e. Attitude, Subjective Norm, Perceived Behavioral Control, Descriptive Norm and Moral Norm; indicating a relationship between environmental concern and consumer values/beliefs. Environmental Concern has the most correlation to Moral Norm, i.e. moral values that people hold onto and a sense of personal moral obligation that seem to steer their behavior. These results are similar to Chen and Tung’s (2014) results, where the construct Perceived Moral Obligation (Moral Norm) was evident to have the strongest relationship to Environmental Concern.

The strongest predictor of consumer Purchasing and Recycling Behavior, as well as having the strongest correlation to Environmental Concern, is Moral Norm. Both hypothesis9 and hypothesis10 are supported. The results indicate that if Icelandic consumers perceive they have a moral obligation regarding protection of the environment, it is reflected in both their Purchasing Behavior and Recycling Behavior. The fact that Moral Norm has significance in predicting environmentally friendly behavior has also been supported in previous research (Chen & Tung, 2014; Moser, 2015; Prakash & Pathak, 2017; White et al., 2009). These results might not come as a surprise, as they reflect former research on consumer perspective on packaging; if people perceive that they have an obligation to the environment and that they can actually do something to help it, they will show off some intention to do so (Buerke et al., 2017; Moser, 2015; Prakash & Pathak, 2017). These results are somewhat different from other researches, where the construct of Perceived Behavioral Control, or some version of it, has been the strongest predictor of behavioral intention (Chen & Tung, 2014; Moser; 2015; White et al., 2009). The results also support statements from previous research (Ajzen, 1991; White et al., 2009), that the tool needs to be amended as it won’t predict behavior it has nothing to do with, e.g. Martinho et al. (2015) research showed that the original Theory of Planned Behavior showed little support for recycling behavior.
Both hypothesis 7 and hypothesis 8 for Descriptive Norm were supported. Consumers are more likely to both purchase food products in environmentally friendly packaging and recycle packaging if they think people important to them also purchase such products and also recycle. This is in line with results by White et al. (2009) on recycling in Australia, where Descriptive Norm was found to be a predictor of people’s intention to recycle. Our results can perhaps be explained by the fact that recycling in Iceland has been under public scrutiny for quite some time, as well as being legally a part of basic service in each municipality (Umhverfis- og skipulagssvið Reykjavíkurborgar, n.d.). This might also explain why Icelandic consumers seem to perceive they’re in control of their recycling behavior and with that, hypothesis 6 was supported (Perceived Behavioral Control). The fact that Perceived Behavioral Control is supported for Recycling Behavior and not for Purchasing Behavior might stem from the amount of time that recycling has been a part of everyday life. Responsible Purchasing Behavior is not as widely discussed and might also be more difficult and costly to measure. However, consumers do seem to be more aware of the effects packaging has on the environment, and they do criticize companies that use a lot of plastic for their food products (e.g. the case with Kjörís, 2017).

Lastly, hypothesis 11 was partially supported with a medium effect correlation between behavioral constructs, but still providing support to what Birgelen et al. (2009) presented in their study: exhibiting environmentally friendly behavior in one aspect can lead to another environmentally friendly behavior.

Both hypothesis 1 and hypothesis 2 for Attitude were unsupported. Reasons for this might be due to evaluation terms used to predict the behavior not reflecting values the participants have. For both Chen and Tung (2014), and White et al. (2009), hypotheses for Attitude were supported, however both were predicting behavioral intention, not the behavior directly. Both hypothesis 3 and hypothesis 4 for Subjective Norm were unsupported. For this research, the construct of Subjective Norm was adapted from Chen and Tung (2014) as their results showed that it predicted people’s behavioral intentions. The fact that it’s not supported in this research might not come as a surprise, as former research has found Subjective Norm to be unsupported (Martinho et al., 2015; White et al., 2009). In that case, our results are in line with previous research. It has been mentioned before that Subjective Norm has been criticized for not predicting
behavior well (East et al., 2017), and Ajzen (1991) did mention that pro-environmental behavior might be a personal belief/value and not caused by social pressure from others. The lack of support for hypothesis 3 and hypothesis 4 can perhaps be interpreted as an argument for omitting the construct of Subjective Norm when trying to predict altruistic behavior, e.g. pro-environmental one. The last hypothesis to be unsupported was Hypothesis 5 for Purchasing Behavior in relation to Perceived Behavioral Control. This is surprising, as Perceived Behavioral Control, or versions of it, has often been a strong predictor of intention/behavior (Chen & Tung, 2014; Moser, 2015; Prakash & Pathak, 2017; White et al., 2009). This might indicate that Icelandic consumers don’t perceive they are able to purchase products in environmentally friendly packaging for whatever reason, or perhaps the statements didn’t reflect the behavior well.

The results present valuable information and opportunities for both policymakers and organizations. For organizations, especially food companies, the results indicate that consumers do exhibit environmental concern, and that food companies can use this information for their advantage. By using more sustainable packaging, companies can appeal to a new market segment of consumers that wants to show off good purchase behavior due to their values of protecting the environment.

For policymakers, it shows that recycling initiatives that have been put into law are paying off – consumers overall seem to be more inclined to recycle and seem to evaluate it as a part of daily routine, to dispose of waste in a responsible manner.

An opportunity for policymakers is this: As only two constructs explain Purchasing Behavior on pro-environmentally packaged products, this might indicate that consumers might not be aware of how their choice matters. Consumers need to understand that they are actually voting with their Purchasing Behavior; they inform food companies that they’re okay with their packaging being made of unsustainable materials. If consumers are not using their power to go for more sustainably packaged products, policymakers, and perhaps non-governmental organizations, need to take this seriously and educate the public further on why it matters.

8.1 Limitations and Future Research
The theoretical value of this research is a deeper understanding of which factors drive consumer purchasing and recycling behavior in relation to consumers environmental
concern in Iceland. Researching both purchasing and recycling behavior simultaneously has not been done before on Icelandic consumers, and therefore provides a useful insight for various stakeholders where they can get information on how these two behaviors interact with one another.

However, there are a few limitations with this study. As this study obtained participation via convenience sample, the results might need to be read with some caution as they might not reflect the entire population. Also, early on during the survey, it became apparent that men were somewhat lacking in participating in the survey, so men at various age were specially asked to participate and share the questionnaire to gain more equality among answers. Perhaps further steps are needed to get men to engage more with surveys.

Another limitation was a somewhat big dropout from the survey – around 700 participants were recorded, but only about 300 participants finalized the survey. As with conducting surveys, one should always expect some drop-out of participants. While it’s difficult to say why this is, we speculate that the topic of the research might have been too personal for some participants. Future research could look into conducting a similar survey with different methods, to represent the population more accurately.

For future research, we suggest a few things should be looked into. This research skipped a step that is included in the Theory of Planned Behavior: Intention. As intention is a good indicator of whether consumers will exhibit that behavior (East et al., 2017), an idea for a further research would be to add this step to explore and compare results from this research with the addition of intention to the model. Another interesting factor is that Perceived Behavioral Control, which was found to be a strong indicator of Intention/Behavior in previous research (Chen & Tung, 2014; White et al., 2009), was in our research the weakest predictor in relation to Recycling Behavior and proved not to be a significant predictor when it comes to Purchasing Behavior. This may be due to the fact that the previous research investigated the relationship between Perceived Behavioral Control and Behavioral Intention, while our research omitted Intention. Perhaps some changes to the questionnaire statements for Perceived Behavioral Control are necessary, as they might not have represented the construct well enough. An idea is to follow Moser’s (2015) research, that is to break down the construct even further and
test something within the means of Perceived Behavioral Control, e.g. Willingness to Pay.

When working on the theoretical section of this thesis, it became apparent that little research exists on company waste disposal. The majority of research is on consumers (Birgelen et al., 2009; Buerke et al., 2017; Chen & Tung, 2014; Koenig-Lewis et al., 2014; Moser, 2015; Prakash & Pathak, 2017; White et al., 2009), and less has been focused on how and if companies recycle (especially the ones in the food industry) and if their material use is environmentally friendly. Recent news reports on company waste have shown that the majority of unrecycled waste comes from companies, especially paper and plastic (Jónsson, 2018). Meanwhile, general reports on waste and recycling seem to only focus on waste from households and individuals (i.e. Umhverfisráðuneytið, 2012; Umhverfis- og skipulagssvið Reykjavíkurborgar, n.d.), which indicates an untouched area of research by academics and governmental organizations in Iceland. Companies don’t seem to be under much scrutiny when it comes to waste disposal, and it’s a fact that more waste comes from companies than from individual households (Jónsson, 2018; Reykjavík, 2017), yet little is known about it. The benefits of additional research in this area could be to encourage companies to participate in pro-environmental behavior, something that has been shown to have a good influence on company competitiveness and may result in increased purchasing behavior (Becker-Olsen et al., 2006; Martínez et al., 2016).

Last but not least, future research could look into consumer behavior regarding food waste. It’s widely believed by consumers that packaging generally has more impact on the environment than what is within the packaging (Fernqvist et al., 2015; Lindh et al., 2016; Moser, 2015; Verghese et al., 2010). However, in some cases, food waste has a greater impact on the environment than packaging waste (Lindh et al., 2016; Williams & Wikström, 2011). Consumers could contribute much to environmental protection by minimizing food waste – and by that also relieving their environmental concern.
References


https://www.facebook.com/kjorisiceland/photos/a.135171203602.105807.44062873602/10154628060378603/?type=3&theater


Lög um meðhöndlun úrgangs nr. 55/2003


Appendix 1 - Questionnaire

Dear participant,

My name is Ingunn Sigurðardóttir and I’m a student at the University of Iceland. The following questionnaire is a part of my master’s thesis, where the aim is to explore people’s behavior towards food packaging and recycling.

It takes about 5 minutes to answer the questionnaire. It’s anonymous, and answers cannot be traced back to respondents. The thesis is supervised by Auður Hermannsdóttir, adjunct at University of Iceland.

Best regards,
Ingunn Sigurðardóttir
ins20@hi.is

Please choose the option that best suits you:

1. To me, environmentally friendly food packaging is...
   - Extremely bad · Pretty bad · Bad · Neither nor · Good · Pretty good · Extremely good
   - Extremely foolish · Pretty foolish · Foolish · Neither nor · Wise · Pretty wise · Extremely wise
   - Extremely undesirable · Pretty undesirable · Undesirable · Neither nor · Desirable · Pretty desirable · Extremely desirable
   - Extremely unfavorable · Pretty unfavorable · Unfavorable · Neither nor · Favorable · Pretty favorable · Extremely favorable
   - Extremely useless · Pretty useless · Useless · Neither nor · Useful · Pretty useful · Extremely useful

2. To me, recycling packaging is...
   - Extremely bad · Pretty bad · Bad · Neither nor · Good · Pretty good · Extremely good
   - Extremely foolish · Pretty foolish · Foolish · Neither nor · Wise · Pretty wise · Extremely wise
   - Extremely undesirable · Pretty undesirable · Undesirable · Neither nor · Desirable · Pretty desirable · Extremely desirable
   - Extremely unfavorable · Pretty unfavorable · Unfavorable · Neither nor · Favorable · Pretty favorable · Extremely favorable
   - Extremely useless · Pretty useless · Useless · Neither nor · Useful · Pretty useful · Extremely useful

How much do you disagree or agree with the following statements?

3. Most people who are important to me think that I should buy food products in environmentally friendly packaging
   - Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

4. Most people who are important to me would want me to buy food products in environmentally friendly packaging
   - Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

5. People whose opinions I value would prefer that I buy food products in environmentally friendly packaging
   - Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

6. Most people who are important to me think that I should recycle food packaging
   - Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree
7. Most people who are important to me would want me to recycle food packaging
   • Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

8. People whose opinions I value would prefer that I recycle food packaging
   • Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

How much do you disagree or agree with the following statements?

9. Whether or not I buy food products in environmentally friendly packaging is completely up to me
   • Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

10. I am confident that if I want, I can buy food products in environmentally friendly packaging
    • Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

11. I have resources to buy food products in environmentally friendly packaging
    • Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

12. I have time to buy food products in environmentally friendly packaging
    • Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

13. Whether or not I recycle environmentally friendly food packaging is completely up to me
    • Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

14. I am confident that if I want, I can recycle food packaging
    • Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

15. I have resources to recycle food packaging
    • Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

16. I have time to recycle food packaging
    • Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

How much do you disagree or agree with the following statements?

17. People that are important to me buy food products in environmentally friendly packaging
    • Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

18. People that are important to me recycle food packaging
    • Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

Please choose the opinion that best suits you:

19. How many of the people that are important to you, you think buy environmentally friendly packaged food products?
    • Almost none · Small minority · Minority · Some · Majority · Big majority · Almost all

20. How many of the people that are important to you, you think recycle food packaging?
    • Almost none · Small minority · Minority · Some · Majority · Big majority · Almost all

How much do you disagree or agree with the following statements?
21. I feel a moral obligation to buy food products in environmentally friendly packaging
   - Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

22. I buy food products in environmentally friendly packaging according to my principles
   - Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

23. I feel a moral obligation to engage in recycling of food packaging
   - Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

24. I recycle food packaging according to my principles
   - Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

Please choose the option that best suits you:

25. How rarely or often do you buy food in environmentally friendly packaging?
   - Never · Very rarely · Rarely · Neither nor · Often · Very often · Always

26. How rarely or often do you recycle food packaging?
   - Never · Very rarely · Rarely · Neither nor · Often · Very often · Always

How much do you disagree or agree with the following statements?

27. I am extremely worried about the state of the world’s environment and what it will mean for my future
   - Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

28. Mankind is severely abusing the environment
   - Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

29. When humans interfere with nature it often produces disastrous consequences
   - Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

30. The balance of nature is very delicate and easily upset
   - Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

31. Humans must live in harmony with nature in order to survive
   - Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

32. I think environmental problems are very important
   - Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

33. I think environmental problems cannot be ignored
   - Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree

34. I think we should care about environmental problems
   - Strongly disagree · Rather disagree · Disagree · Neither nor · Agree · Rather agree · Strongly agree
Questionnaire – Íslenska

Ágæti þátttakandi

Ég heiti Ingunn Sigurðardóttir og er í námi við Háskóla Íslands. Eftirfarandi könnun er hluti af meistaraverkefni minu og snýr að viðhorfi einstaklinga gagnvart matvælaumbúðum og endurvinnslu.

Það tekur innan við 5 mínútur að svara könnuninni. Hún er nafnlaus og verða svör ekki rakin til einstakra þátttakenda. Verkefnið er unnið undir handleiðslu Auður Hermannsdóttur, aðjunkts við Háskóla Íslands.

Bestu þakkir,
Ingunn Sigurðardóttir
ins20@hi.is

Veldu þá svarmöguleika sem eiga best við þig:

1. Fyrir mér eru umhverfisvænar matvælaumbúðir...
   • Mjög slæmar · Frekar slæmar · Slæmar · Hvorki né · Frekar gðar · Mjög gðar
   • Mjög heimskuleg · Frekar heimskuleg · Heimskuleg · Hvorki né · Gáfuleg · Frekar gáfuleg · Mjög gáfuleg
   • Mjög óákjósanleg · Frekar óákjósanleg · Óákjósanleg · Hvorki né · Ákjósanleg · Frekar ákjósanleg · Mjög ákjósanleg
   • Mjög skaðleg · Frekar skaðleg · Skaðleg · Hvorki né · Skaðlausar · Frekar skaðlausar · Mjög skaðlausar
   • Mjög gagnslausar · Frekar gagnslausar · Gagnslausar · Hvorki né · Gagnlegar · Frekar gagnlegar · Mjög gagnlegar

2. Fyrir mér er endurvinnsla matvælaumbúða...
   • Mjög slæm · Frekar slæm · Slæm · Hvorki né · Gð · Frekar góð · Mjög góð
   • Mjög heimskuleg · Frekar heimskuleg · Heimskuleg · Hvorki né · Gáfuleg · Frekar gáfuleg · Mjög gáfuleg
   • Mjög óákjósanleg · Frekar óákjósanleg · Óákjósanleg · Hvorki né · Ákjósanleg · Frekar ákjósanleg · Mjög ákjósanleg
   • Mjög skaðleg · Frekar skaðleg · Skaðleg · Hvorki né · Skaðlausar · Frekar skaðlausar · Mjög skaðlausar
   • Mjög gagnslaus · Frekar gagnslaus · Gagnslaus · Hvorki né · Gagnleg · Frekar gagnleg · Mjög gagnleg

Hve ósammála eða sammála ertu eftirfarandi fullyrðingum?

3. Flest fólk sem skiptir mig máli telur að ég ætti að kaupa matvæli í umhverfisvænum umbúðum
   • Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

4. Flest fólk sem skiptir mig máli vill að ég kaupi matvæli í umhverfisvænum umbúðum
   • Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

5. Fólk sem ég tek mark á telur að ég ætti að kaupa matvæli í umhverfisvænum umbúðum
   • Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

6. Flest fólk sem skiptir mig máli telur að ég ætti að endurvinna matvælaumbúðir
   • Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

7. Flest fólk sem skiptir mig máli vill að ég endurvinni matvælaumbúðir
   • Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála
8. Fólk sem ég tek mark telur á að ég ætti að endurvinna matvælaumbúðir
   • Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

Hve ósammála eða sammála ertu eftirfarandi fullyrðingum?

9. Pað er undir mér komið hvort ég kaupi matvæli í umhverfisvænum umbúðum eða ekki
   • Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

10. Ég er fullviss um að ég get keypt matvæli í umhverfisvænum umbúðum, ef mig langar til þess
    • Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

11. Ég hef fjárráð til að kaupa matvæli í umhverfisvænum umbúðum
    • Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

12. Ég hef tíma til að kaupa matvæli í umhverfisvænum umbúðum
    • Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

13. Pað er undir mér komið hvort ég endurvinni matvælaumbúðir eða ekki
    • Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

14. Ég er fullviss um að ég geti endurunnið matvælaumbúðir, ef mig langar til þess
    • Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

15. Ég hef fjárráð til að setja matvælaumbúðir í endurvinnslu
    • Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

16. Ég hef tíma til að setja matvælaumbúðir í endurvinnslu
    • Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

Hve ósammála eða sammála ertu eftirfarandi fullyrðingum?

17. Flest fólk sem er mér mikilvægt kaupir matvæli í umhverfisvænum umbúðum
    • Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

18. Flest fólk sem er mér mikilvægt endurvinnum matvælaumbúðir
    • Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

Veldu þann svarmöguleika sem á best við þig

19. Hve mikill fjöldi fólks sem skiptir þig máli, telur þú að kaupi matvæli í umhverfisvænum umbúðum?
    • Nánast enginn · Lítill minnihluti · Minnihluti · Einhverjir · Meirihluti · Stór meirihluti · Nánast allir

20. Hve mikill fjöldi þeirra sem skiptir þig máli, telur þú að endurvinni matvælaumbúðir
    • Nánast enginn · Lítill minnihluti · Minnihluti · Einhverjir · Meirihluti · Stór meirihluti · Nánast allir

Hve ósammála eða sammála ertu eftirfarandi fullyrðingum?

21. Ég finn fyrir síðferðilegri skyldu til að kaupa matvæli í umhverfisvænum umbúðum
    • Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála
22. Að kaupa matvæli í umhverfisvænum umbúðum er samkvæmt þeim gildum sem ég hef tileinkað mér

• Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

23. Ég finn fyrir síðferðilegri skyldu til að endurvinna matvælaumbúðir

• Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

24. Að endurvinna matvælaumbúðir er samkvæmt þeim gildum sem ég hef tileinkað mér

• Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

Veldu þann svarmöguleika sem á best við þig

25. Hversu sjaldan eða oft kaupir þú matvæli í umhverfisvænum umbúðum?

• Aldrei · Mjög sjaldan · Sjaldan · Hvorki né · Oft · Mjög oft · Alltaf

26. Hversu sjaldan eða oft endurvinur þú matvælaumbúðir?

• Aldrei · Mjög sjaldan · Sjaldan · Hvorki né · Oft · Mjög oft · Alltaf

Hve ósammála eða sammála ertu eftirfarandi fullryðingum?

27. Ëg hef miklar áhyggjur af umhverfinu og hvað það þýðir fyrir framtíð mína

• Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

28. Mannfólkið fer mjög illa með umhverfið

• Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

29. Ëgar fólk hefur afskipti af náttúrunni hefur það oft slæmar afleiðingar

• Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

30. Jafnvægi náttúrunnar er mjög viðkvæmt og auðvelt er að raska því

• Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

31. Mannfólkið þarf að lífa í sátt og samlyndi við náttúru til þess að lífa af

• Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

32. Ég tel umhverfisleg vandamál vera mjög áriðandi

• Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

33. Ég tel að ekki sé hægt að hunsu umhverfisleg vandamál

• Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála

34. Ég tel að við eigum að takast á við umhverfisleg vandamál

• Algjörlega ósammála · Frekar ósammála · Ósammála · Hvorki né · Sammála · Frekar sammála · Algjörlega sammála
Appendix 2 – Figures from Results

Histogram for Purchasing Behavior

Histogram
Dependent Variable: BVR1 Hversu sjáldan eða oft kaupir þú matvæli í umhverfisvænum umbúðum?

Scatterplot for Purchasing Behavior

Scatterplot
Dependent Variable: BVR1 Hversu sjáldan eða oft kaupir þú matvæli í umhverfisvænum umbúðum?