

TALLINN UNIVERSITY OF TECHNOLOGY

School of Business and Governance

Department of Business Administration

Vlada Fidinich

**CONSUMERS PURCHASE INTENTIONS OF GREEN  
PRODUCTS IN SUPERMARKET RETAIL**

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Supervisor: Eliis Salm, MA

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Vlada Fidnich.....

(signature, date)

Student code: a145395

Student e-mail address: vladafid@gmail.com

Supervisor: Eliis Salm, MA

The paper conforms to requirements in force

.....

(signature, date)

Chairman of the Defence Committee

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## **ABSTRACT**

Current paper based on the online survey distributed via social media. The theory of reasoned action (TRA) was implied in order to see the level of Estonians' purchase intention of the environmentally friendly product. Presented results show that the respondents have positive attitudes towards the green products. The study also found out whether the consumers' environmental concerns influence the consumers' purchase intentions of environmentally friendly products at retail. Closely following previous studies the results obtained in the current thesis provide that there is a strong link between environmental concern and purchase intention of green product. Yet, the influence of the environmental concern on the consumers' purchase intention could not be assessed. In order to get the appropriate answer for the question semi-structured interview is recommended. The nature of the environment concerns among Estonians also named in the work.

Keywords: Attitude formation, environmental concern, consumers' behavior, the theory of reasoned action.

## INTRODUCTION

Doubts regarding the environmental concern are growing every year and gaining more and more space in business and academia areas. There is an obvious 'hole' between the environment and humans. We can observe extreme climate changes which are taking place across the globe. In the past scientists predicted the negative changes of global climate, some of these adverse effects include changes in weather patterns, plant and animal diversity loss, shift in season's periods, global temperature rise and lose of the sea ice (Karl *et al.* 2009).

At the same time we can observe increasing of the society interest about changing lifestyle for healthier one. In order to transform that interest into actions people have to review their attitudes about their own lifestyle, as all changes first of all starts with personal changes. For today already exist some methods which focused on how to motivate people to make steps towards the green lifestyle.

This paper is an important addition to the studies which focuses on the development of green market and green technologies. Let's do not forget that even if having all necessary technologies and knowledge to become more sustainable the development becomes useless without human willingness to change. It is needful to get clear vision and better understanding of human motives because it will be way easier to identify or create strategies to develop positive attitudes and behavior as well as to find solutions for the dealing with the environmental issues we are facing nowadays.

Current work based on similar questionnaire, it evaluates environmental concern and consumer's purchase intentions of green products in supermarket retail. The survey was conducted on a sample of 139 consumers who do shopping in retail supermarkets in Estonia.

The aim of the study is to find out level of consumers' intentions to buy green products in retail. Many studies were made around the globe in different time periods, they are presented in the next chapters, therefore it is interesting and obviously necessary to make this study based on

Estonian market, to add the important quantitative data and findings in already existing knowledge.

Main research questions:

- Do environmental concerns influence the purchase intention of green products at retail?
- What is the nature of environmental concern among the Estonians?

The author of the current paper use “multiple choice questions” to determine age, gender, occupation etc. and “Likert scale” with five agreement and disagreement points where 1 stays for “total disagreement”, 2 for “disagreement”, 3 for “rather agree than disagree”, 4 for “agreement” and 5 for “total agreement” in order to determine the environmental concern and purchase intention.

Questions in questionnaire were modified from Margit de Boer (2011), and Sergio Silva Braga Juniora, Dirceu da Silvab, Marcelo Luiz D. S. Gabrielb and Waleska Reali de Oliveira Bragaa (2015) works.

Previous researches demonstrate that environmental concern together with the intention to purchase express some connections that is why the main attention should be on humans’ attitudes. Following previous study which was made by Braga *et al.* (2015) the environmental concern considered as behavior and purchasing intention as an attitude.

First chapter contains the theoretical and empirical background of the study. The chapter will provide main terms which have direct link to the aim of the research as well as theoretical standpoints. Opinions and comparisons of different authors are provided. Second chapter describes the object of the research. The research methods are justified. Third chapter includes methodological part of the research. In this part of the papers empirical analyses, results and discussion which are connected to the current research presented. The thesis paper use quantitative analysis that is why descriptive statistics included. Finally the last section is a conclusion it is aims to summarize the work done in this particular study.

# **1. NATURE OF ATTITUDE AND HUMAN BEHAVIOR TOWARDS THE ENVIRONMENT**

The following chapter will contain an overview of some major theoretical insights which strongly related to the aim of the research paper. The information is contributed to give the understanding of consumer's purchase intentions of green products. The chapter starts with discussion on behavioral learning theories. Next section of this chapter will be devoted to the field of attitude formation, these is relevant especially to understand the environmental concern. The subject of this section is relationship between attitudes and purchasing behavior, it is necessary as it is explains what consumers intentions are. Finally, this leads to the introduction of the models, used in this particular research, from the theoretical perspective.

## **1.1. Behavioral learning theories**

With learning process comes experience this relates to a quite permanent change in behavior. It does not mean that this experience has the direct affect on the learning, one of the brightest examples is observing process, and it is an indirect process as it affects others. (Allyn, Bacon 1989) Another example is incidental learning; consumers can recognize variety of different brand names and logos even when they do not use those products. (Marsick, Watkins 1990, 12)

Understanding of basic learning principles is important as they cover many consumer purchase decisions. Behavioral learning theories presume that learning takes place as a result of external impact rather than internal thought process. (Michael *et al.* 2006, 62)

Albert (1986) in his works proves that such learning type is a complex process: person store an observations in the memory as this has a direct relation to the knowledge which were accumulated (Albert 1986). For example, a girl shopping for a new sport shoes may remember the reactions her friend received when wearing particular brand during last training session, and she will build her behavior on her friend's actions.

Four components must meet to occur the observational learning (Englewood 1986):

1. The consumer's attention must be directed to the appropriate model who, for reasons of attractiveness, competence, status or similarity, it is desirable to emulate.
2. The consumer must remember what is said or done by the model.
3. The consumer must convert this information into actions.
4. The consumer must be motivated to perform these actions.

These conditions are summarized in Figure 1.

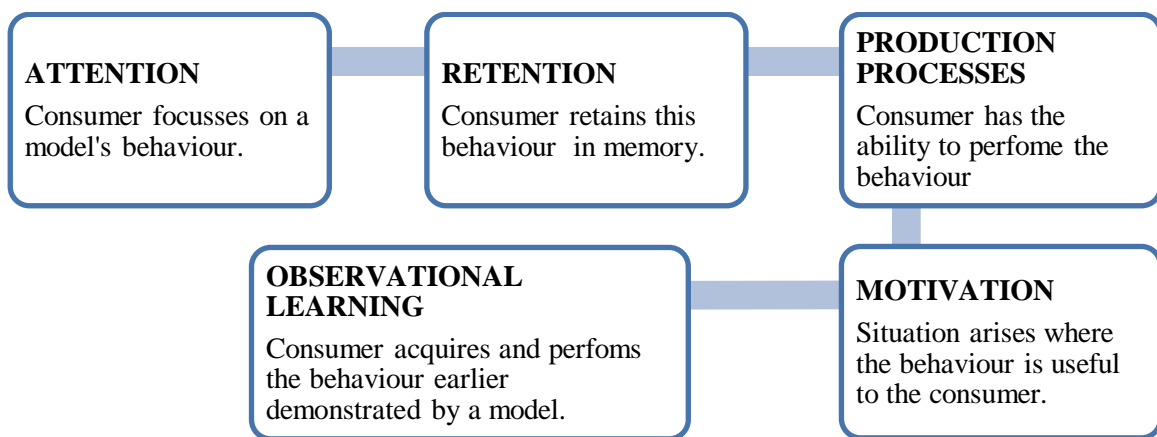


Figure 1. Observational learning components

Source: Michael *et al.* (2006, 67)

Observational learning is a form of cognitive learning, which is a result of mental processes. It occurs when the consumer performs a behavior as a result of seeing someone else performing it and being rewarded for it. (McLeod 2015)

## 1.2. Attitude formations

An attitude is lasting as it tends to endure over a long period of time. It is general, as it applies to more than an instantaneous event. Imagine hearing a disturbing noise for some lasting period, over time you might develop a negative attitude towards different insufficient noises. Consumers



have a different range of attitudes towards product-specific behaviors (for example using Tide rather than Ariel washing powder), as well as towards more general consumption-related behaviors (such as, how often you should wash your sports bra). Attitudes lead to define with whom a person goes out, what movie style he or she prefers to watch, whether he or she will separate recyclable wastes from organic, or whether he or she choose to become a zero waste living. (Michael *et al.* 2006, 138)

No one is born with persuasion which says Nike is better than Adidas or that sunny weather improves mood. Where do these attitudes come from? An attitude can form in numerous ways, most of the time it depends on the particular hierarchy of impact in a procedure, such as (*Ibid.*, 145):

- Classical conditioning, here attitude determine as an object, such as the name Nike, it clearly connects with a catchy quote 'Just do it'.
- Instrumental conditioning, in this case, a consumption of the attitude object is reinforced 'Show your fast'.
- Complex cognitive process, the learning of an attitude can be the outcome of a society impact, for example, a person can come to model behavior of media or friends or family figures who wear Nike clothes because he insure that this will help him to fit in with the desirable image.

It is important to understand the difference between the attitude types, as not all attitudes are formed in the same way (Kelman 1958). If to take a highly brand-loyal consumer, for example, a fan of FC Flora, is a professional football club based in Tallinn, Estonia, has an extremely positive attitude that is why to reduce the interest towards an attitude object will be difficult. If to take as an example consumers who prefer drama and gossips about the FC Flora more than the delicate aspects of soccer can have a blandly positive attitude towards a product but be easy to tend to abnegate it if something better comes along. (Michael *et al.* 2006, 145)

Katz (1960, 163-204) explained how attitudes support social behavior, for this he developed the functional theory of attitudes. Following this approach, attitudes exist because they serve a function of the person (Michael *et al.* 2006, 139). Subsequently they are established by motives of a person. Russell and Lenn (1984, 214 – 234) believes that only those consumers who plan to deal with some situation at a future time more likely start building some forms of attitudes in anticipation of this event.

There is a big possibility that a group of people can have the similar attitude towards the same object, but their reasons can be totally different. Below presented the attitude functions developed by Katz (1960) and Smith (1956):

- Utilitarian function. This particular function is related to such basic principles as reward and punishment. In other words person creates his or her attitude towards some object simply on basis of whether this object brings pain or pleasure. Utilitarian attitudes are the models of consequentiality theories (Miller 1990): that which creates right acts is their consequences. As an example, one's attitude towards Coke may serve the utilitarian function as it is likely focused on the reward (e.g., refreshing taste) and punishment (e.g., too much sugar) which are directly connected with Coke drink and to lead behavior that maximize benefits while minimizing punishments (e.g. drinking diet Coke) (Shavitt, Nilson 2002).
  
- Value-expressive function. One of the hardest to conceptualize and influence, attitude which serve value-expressive function shows the consumer's particular value or self-concept (Carpenter *et al.* 2013). This certain attitude is consequently report important information about the person to the society, about who they are. Person forms an attitude towards an product not because of the benefits it brings, but because of what the object tells about him or her to a person (e.g. "What kind of people drive Bentley?"). Value-expressive attitudes are good to use if there are a need in lifestyle analyses, where consumers perfume some collection of activities, interests and opinions to show a curtain social identity (Michael *et al.* 2006, 139).
  
- Ego-defensive function. This form of attitude protects the individual from either internal or external unpleasantness, can be both at the same time. Eco-defensive attitudes mainly defence conserving one's own self-esteem (Bazzini, Shaffer 1995). For example such product as Marlboro cigarettes promises to a man to bring to their lifestyle a 'macho' image (Cialdini *et al.* 1976).
  
- Knowledge function. This function appears when a consumer confronted with a new product or if a person falls into an uncertain situation (Michael *et al.* 2006, 139). Knowledge attitudes helps person to get better vision and clear understanding of some particular structure or/and operation in their life (Katz, 1960). As an example of attitude which serves the knowledge

function can be the interest of the person toward protein bar, an intrigue the person has regarding the process by which the product is made (Locander, Spivey 1978).

Attitude toward one particular object may serve two and more functions at the same time, but most of the time only one of them have larger impact than others and will be the crucial while taking a decision (Miniard *et al.* 2005, 139).

### **1.3. Relationship between attitude and purchasing behavior**

Market-driven incentives try to change purchase intention into purchase attitude and behavior. Bagozzi (1981) believe that only attitudes have an impact on behavior through the behavior intentions, but only if this impact is indirect.

Attitudes belongs to the achievements which have connections with the lifestyle of the person, they demonstrate the evaluation of the aspect in question. Activities which consumers decided to make while buying products in retail supermarket are the attitude measurements. (Ajzen 2001)

There is a general agreement that if to insert some subject in the new society or in the new environment an attitude makes the adaptation process easier. Aizen (2001) explains some ways of measuring an attitude in form of the psychological object. The author believes that an attitude has to be caught in the attribute dimension as something good-bad, dangerous-beneficent, pleasant-unpleasant and sympathetic-antipathetic.

To understand how an attitude can be transformed in a purchasing intention, first, the purchasing process as well as customers' decisions during this process has to be explored (Lopes 2010).

Today there are already tested models of decision-taking process, those models have several stages (Howard, Sheth 1967; Miniard *et al.* 2005; Alturas 2005). Stages of the decision-taking models explain and graphically show how consumers design their purchasing intentions from this perspective it is easier to trace how manner intentions become attitudes and buying behavior. (Engel, Blackwell 2005) Models consist from at least five stages of the purchase-decision process, and the influential aspects increases within each stage. Using this model helps to see when exactly the consumer take a decision to purchase the product. (Blackwell *et at.* 2005)

The simplified model of consumers' purchase-decision process (see Figure 2) described by Consequently, Blackwell, Miniard and Engel (2005), Alturas (2005), Kotler and Keller (2006) has "Acknowledgment of the problem" as the first stage.

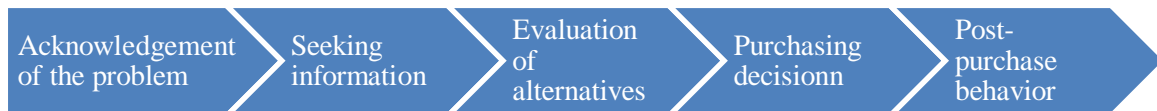


Figure 2. Model of consumers' purchase process  
Source: Kotler, Keller (2006, 189)

First stage of the consumers' decision process is stimuli. Stimuli push person to look for the information about the product, when the data is collected and all alternatives considered consumer start building the attitude towards the product. This taken attitude, towards the certain product, will determine purchasing decision of the person. (Lopes 2010, 35)

Kotler and Keller (2006) have the same vision about the model. They agreed that the first stage is acknowledgement of the problem. The next stage after is "seeking information", it is a process during which consumer collecting or/and receiving needed information. The data can come from family, friends, from the market or any other external sources. Evaluation of alternatives follows. At this stage customer define other possible options. During the fourth stage consumer with relevant criteria and attributes finally decide to purchase the product. Consumption phase comes is a last stage of the purchasing-decision process, it is mainly characterized by enjoyments and the utilization of the product. Exactly the same process of consumers' purchase-decision can be applied on the service which consumer planning to get. (Blackwell *et al.* 2005)

When the consumers' purchase-decision process is finished, company or firm or any other organization has to concentrate on other processes which were before the purchase, starting from the moment when consumers define what for to spend their money (Blackwell 2005). Engel and Miniard (2005) in their studies proved that consumers' behavior directly affected by the factors in these processes.

## 1.4. The theory of reasoned action

When consumers give their opinion towards any products in most cases they provide general evaluation of his or her attitudes about it. If market researcher decide to measure attitudes sometimes it is better to ask a consumer using the direct questions (e.g. “How do you feel about ...”). (Solomon *et al.* 2006, 151) Asking such type of question respondent involves three basic elements (Wilkie *et al.* 1986):

1. Attributes - they describe the characteristics of the A<sub>o</sub>. Consumers, according to the multi-attribute models, take in consideration a two or more attributes which help them to evaluate the attitude object.
2. Beliefs - measures knowledge about certain A<sub>o</sub>.
3. Importance weights – reflects a number of attributed. For different people some attributes are more important than others. In other words this element represents the priority of an attribute to the consumer.

However, as we already know, human attitudes are way more complex than this. There can be several reasons for this:

- First of all product or service can have two and more attributes – for certain people this attributes perform different level of importance. (Stern 1989, 34)
- Second reason or issue which can occur with simple responses is that person as a human being can be easily affected by external facts. The most common in the all history is not to be approved by others. People used to ask themselves if their decisions (attitudes) will meet the approval by friends, lover, family or society in general. (Ribas *et al.* 2004, 84)

Second problem has a name ‘social desirability’ and it can be the reason or different inconsistencies while examining consumers’ attitude and behavior. According to Gouveia *et al.* (2009) may also be related to another reasons and subjective characteristics (e.g. humor, self-perception).

Another form of social desirability is self-deceit. It is occurs automatically when the impact of social desirability is unwitting or when the respondent unfamiliar with presented question. (Poinhos *et al.* 2008, 223)

All in all any variation of social desirability has a strong link with self-image. Social desirability or image management occurs when respondent tries to manipulate with the answer on purpose. (Barros 2005)

To minimize the negative effect of the social desirability in studies several measurement scales have been provided by such researchers as Ribas Junior, R.C. and Seidl-de-Moura, Poínhos R. and Correia F., Faneca M. and Ferreira J., Gonçalves C. and Pinhão S., Medina J.L. and Barros R., Moreira P. and Oliveira B.

One of the most employed scales to measure the social desirability index was perfumed by Poinhos *et al.* (2008). The Marlowe-Crowne scale divide consumers answers, or better to say, ask respondents to evaluate given statement from two different perspectives: “How the individual responds about your attitude and how he observes the attitude of people in society.” (Braga 2014, 102)

To measure consumers’ attitudes towards any outlines at retail following type of attitude scale was developed by Davide A. Aaker and Georg S. Day (1990):

Single-item scales. It is one of the most common ways to measure consumers’ attitudes towards product or service. Marketers, in order to make a research, have to ask consumers or research participants about their general feelings about Ao. This type of assessments does not show the all picture and does not give the full information about certain attributes, but it provides the general overview of the consumers’ attitudes. The single-item approach uses a Likert scale to measure consumers’ general level of agreement/disagreement towards an attitude statement. (Michael *et al.* 2006, 152)

## **2. RECOGNIZING THE ENVIRONMENTAL CONCERNS**

This chapter is mainly focused on the understanding what the green products are. Second chapter starts with differentiation between conventional products and environmental friendly products. Next sub-chapter presents crucial aspects of the green product positioning, explaining what kind of effects it can course in consumers' attitudes. Third part of the chapter covers the information on different perspectives of previous studies on this topic.

### **2.1. Conventional products versus green products**

Whiting the past century the influence of environmental concern in all economic segments including organizations in the retail segment significantly increased. Nowadays it is possible to see how retail trying to find different ways to start working with environmental friendly products, for example they are involving green products in their product lists so they can meet the demand of green consumers. (Sergio *et al.* 2015, 100)

Numerous studies have been made on the topic which draws the line between green products and conventional products (Luchs *et al.* 2010; Braga, Silvia 2013; Manuela *et al.* 2013; Ar 2012). The most important point which differentiates conventional products from green products is that green products cause less damage to the environment and human health neither in its packaging nor in its content (Jacobi 2006).

Following these green products can be regarded as conventional products with the similar functions but which have less negative effect on the environment during their life cycle. Nevertheless this has to include in its concept political and ecological dimensions, as well as capacity for fair trade and social response (Sergio *et al.* 2015, 100).

Morth and Webb (2005) noticed in their study that consumers which prefer green products choose them not only because for their green appeal but also for the benefits they offer. Products

can be named “green products” only if they strives to improve or protect the environment, preserve natural resources and energy as well as to eliminate the use of toxic components and reduce waste. It might increase the price of the green products, which is why studies in the field have direct links with the consumer behavior as overcharging take environmental and ethical appeal of these products (Braga 2015, 101).

A crucial point for understanding the process is to consent that person do not have to make a purchase decision to consider values of the product. The buying behavior of the consumer mostly based on a previous experience (Bagozzi 1981).

## **2.2. Knowledge about green product and its positioning**

Previous studies of the green market have noted that consumers are more intent to buy the environmental friendly product if they have positive attitudes toward it (Chang Wu 2015; Laroche *et al.* 2001).

Green product knowledge is an established consumers’ behavior towards the product, it referred to the associations with this particular product which causes in the persons’ memory, and the process is directly linked with environmental commitment and environmental concern (Keller 1993, 2).

“Green product awareness is the strength of the product node in consumer memory, while product image refers to strong, unique, and favorable product association in the consumer memory.” (Keller 1993, 2).

Before purchasing a new product, in some cases this can be also after purchasing (e.g. if consumer wants to increase his or her knowledge about the product or service), consumers are seeking for the correct information about the object of the interest, and they are expecting that they will receive reliable information not only positive impacts of the product, but also about the environmental issues which the product has. So this obtained knowledge can facilitate the purchase of the green product. (Ganapathy *et al.* 2014; Geyer-Allely and Zacarias-Farah 2003)



On the other side, such studies like Wolsink (2007) did not find any connections between environmental concern and purchase intention of the consumer. Some researchers determined that even though there is some information about the product, but it is not enough for the consumers it has a negative affect the consumers' purchase behavior (Connell 2010; Padel, Foster 2005).

Previous researchers such as Fraj-Andres and Martinez-Salinas (2007) found out that knowledge about the environmental friendly product moderates the effects of the consumers' ecological attitudes towards green behavior. According to previous mentioned studies and researches the research questions of the current research paper occurs.

After acknowledging the information regarding the certain product green product positioning comes. It is directly connected to the value of green products and services. This value is based on the environmentally friendly attributes which particular product has, from the last chapter we understood that attributes may play different role for people but all in all they definitely have to be significant to customers. (Aaker, Joachimsthaler 2002; Rios *et al.* 2006)

Some researchers believe that company's green positioning represents not only their own image but most likely the public image which is perceived by the society (Saha, Darnton 2007, 127). The above mentioned can be described as "a mix of quality, profits and ecological values that affects the green clients' dependence on the green items" (Hartmann, Ibanez 2006).

From one study to another study that relates to the recognizing of humans' environmental concern scientist point out that positioning of the green product must meet the customer expectation so he or she can relate the product or service with its valuable attributes (Wang 2016; Hartman, Ibanez 2006; Rizwan *et al.* 2013). The main goal of correct product or service positioning is to build the competitive advantage in minds of the potential consumers over already existing alternatives on the market based on the attributes of the product or service (Gwin *et al.* 2003, 30).

Furthermore, Lan and Chang (2012) and Norazah (2013) in their studies shows that consumers who have some knowledge and positive experience with certain product or service most likely will give their preferences to already tested product as they base their attitude on the products' or services' attributes.

### **3. ROLE OF ATTITUDES IN PURCHASING INTENTIONS OF GREEN PRODUCTS**

The third chapter will explore the process of analyzing the required data for the current research in order to measure the consumers' purchase intentions of the green products. This chapter will test the assumptions which directly related to the research question. Results together with final discussions and recommendations will also present here.

#### **3.1. Choice of the method**

For many years scientists were using the multi-attribute model to research the certain feeling consumer has towards a product or service (Ribas *et al.* 2004; Poínhos *et al.* 2008; Barros *et al.* 2005; Ajzen *et al.* 2001; Fishbein *et al.* 1977). Multi-attribute models expect that consumer's attitude of an attitude object ( $A_o$ ) depend on the person belief about all or at least some features (attributes) the object has (William 1986).

This paper aims to figure out the level of consumers' intentions to purchase environmental friendly products. A quantitative method was applied through the sharing of a structured self-administered questionnaire. In the questionnaire were participating 139 respondents who have relevant knowledge about the environmental friendly products which are existing on the Estonian market. The questionnaire was delivered through social media with a direct link to the list of questions it was conducting over a period of 2 weeks in April 2017. After the respondents were screened, a total of 112 were found appropriate and valid to use in the current study. It was decided not to use answers from respondents who are not leaving in Estonia for an at least one past year, as the author of the paper exploring the aim of the study from the Estonian perspective. The respondents were Estonians or at least were living in the Estonia for a past year. The participants have practice a green lifestyle or have an experience of the green product purchase from the different variety of the retail chain in Estonia.

This figure is considered to be reasonable for the analysis, as stated by previous researchers (Hair *et al.* 2010). In a similar vein Sergio and Eduardo (2014) also recommended to use the sample size not less than 100.

In this particular study together with the multiple choice scale, single-item scale was used, first was used to determine age, gender, occupation etc. The single-item scale was conducted to understand personal and contextual factors which affected on respondents purchasing decisions.

Following questionnaire was used in the research:

Table 1. Questionnaire used in the research

|                       |  |
|-----------------------|--|
| General               | <p>Moved or currently living in _ (country) _ for at least 1 year.</p> <p>Your age.</p> <p>Your gender.</p> <p>Where did you grow up? (urban or rural)</p> <p>Your main occupation.</p> <p>Your main income.</p>   |
| Environmental concern | <p>Firms that damage or disrespect the environment should be punished.</p> <p>Agricultural toxics and dangerous substances in food harm the environment.</p> <p>I understand that organic products do not impact the environment.</p> <p>I concerned with pollution in my country.</p> <p>I worried when I see people dirtying streets and parks.</p> <p>I separate recyclable wastes from organic residues at home.</p> <p>I prefer public transport or bike riding.</p> <p>I feel that I may help solve the problem of natural resources by saving water and energy.</p> <p>I feel I may protect the environment by buying ecologically correct products.</p> <p>Plastic and paper bags destroy natural resources.</p> <p>I try to reuse wrappings when possible.</p>                        |
| Purchase intention    | <p>When possible I choose products which cause the least pollution possible.</p> <p>I avoid manufactured products that damage or disrespect the environment.</p> <p>I pay a somewhat higher price for products and food free of chemical substances which damage the environment.</p> <p>I may pay more to buy organic products since they do not impact the environment.</p> <p>I verify whether a product that I intend to buy does not damage the environment or other people.</p> <p>I decided to buy compacted products to reduce gas emission into the atmosphere.</p> <p>I decided to buy refill products so that the previous wrapping need not be disposed of.</p> <p>I decided to buy some products (currently bought in smaller sizes) in bigger sizes and with less frequency.</p> |

Source: Boer (2011); Braga *et al.* (2015, 30)

Validated scale contained 6 questions on General topic, 11 items on Environmental concern and 8 on Purchase intention. Current research has a quantitative approach and in order to get general overview of a respondent personal profile information questions from general section were modified by the author of the study. Following recommendations by DeVillis (2003) items which belong to environmental concern and purchase intention sections were used.

In order to obtain the respondents' demographic profile (Table 2.) the descriptive analysis was used.

Table 2. Demographic characteristics of respondents

|               | Variable                             | Frequency | Percentage |
|---------------|--------------------------------------|-----------|------------|
| Age           | 15-19                                | 6         | 5%         |
|               | 20-25                                | 62        | 55%        |
|               | 26-29                                | 26        | 24%        |
|               | 30+                                  | 18        | 16%        |
| Gender        | Male                                 | 35        | 31%        |
|               | Female                               | 77        | 69%        |
| Grow up       | Urban                                | 87        | 78%        |
|               | Rural                                | 25        | 22%        |
| Occupation    | School student                       | 5         | 4%         |
|               | University student (Bachelor degree) | 36        | 32%        |
|               | University student (Master degree)   | 8         | 7%         |
|               | Employed                             | 63        | 56%        |
| Income source | Parents help                         | 14        | 13%        |
|               | Scholarship or grant                 | 10        | 9%         |
|               | Salary                               | 88        | 79%        |

Source: author's calculations

As we can see in the table the majority of the respondents were at the age from 20 to 25 (55 percent), 1/3 of the all participants were female. 78 percent of the all respondents grow up in the urban area. The main occupation of the respondents is either university education (32 percent) or

working (56 percent). In terms of respondent income source, 79 percent make their budget with accordance to their salary level, 13 percent less flexible and have to plane their budget based on the external help (here their parents' help), and only 10 percent holding grants or scholarship.

Similar study was made in Brazil in 2015 “The Effects of Environmental Concern on Purchase of Green Products in Retail” by Sergio Silva Braga Juniora, Dirceu da Silvab, Marcelo Luiz D. S. and Gabrielband Waleska Reali de Oliveira Bragaa. The research access the influence of environmental concern in people’s retail buying behavior of green products. The objective of their study was to evaluate if the consumers are recognizing and effectively declaring that buying green products in retail. Previous research compares results of consumers’ self-evaluation and the manner they observe the attitude of people in society, the survey was conducted on consumers in retail supermarket in three Brazilian cities.

### **3.2. Results**

To measure the consumers’ environmental concern, respondents were asked to answer the statements from the Figure 4. The figure represents the participants’ behavior toward the environmental friendly products. Y-axes - the statements on consumers’ environmental concern. X-axes – general feeling (here: totally agreement, agreement, rather agree than disagree, disagreement, totally disagreement) towards asked statement.

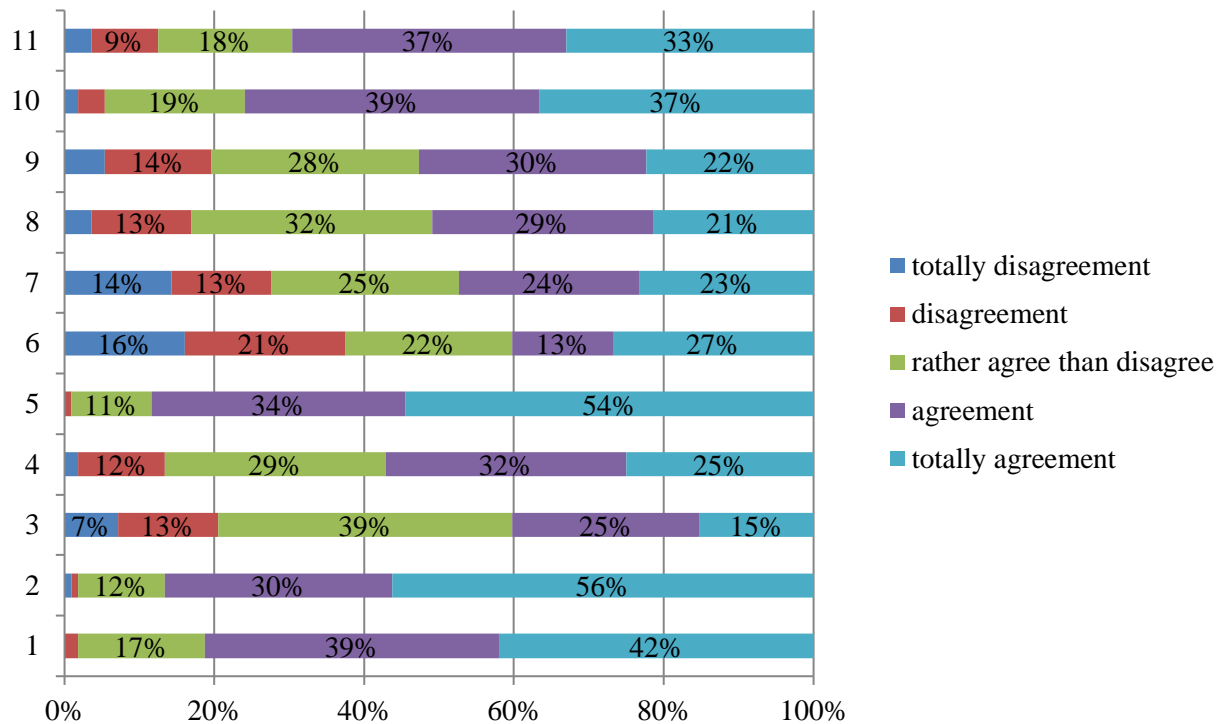


Figure 4. Full picture of the environmental concern among the respondents  
Source: author's calculations

Notes:

If  $n\% < 5\%$  then the  $n\%$  not displayed.

Numbers in y-axis are staying for:

1. Firms that damage or disrespect the environment should be punished.
2. Agricultural toxins and dangerous substances in food harm the environment.
3. I understand that organic products do not impact the environment.
4. I concerned with pollution in my country.
5. I worried when I see people dirtying streets and parks.
6. I separate recyclable wastes from organic residues at home.
7. I prefer public transport or bike riding.
8. I feel that I may help solve the problem of natural resources by saving water and energy.
9. I feel I may protect the environment by buying ecologically correct products.
10. Plastic and paper bags destroy natural resources.
11. I try to reuse wrappings when possible.

The results demonstrate that respondents have relatively high coefficient of environmental concern. The results under the statements 6 and 7 show some negative behavior towards the statements on environmental concern. The results will be further discussed in the next subchapter.

To assess the purchasing intention of the consumers among the Estonians, question 1-8 (see the Figure 3) was asked. Following figure demonstrate the general picture of the purchase intention

among the respondents. Y-axes represent the statements focus on the measuring consumers' purchase intentions. X-axes is a 100% axes, it is demonstrate the general feeling of the respondents (here: totally agreement, agreement, rather agree than disagree, disagreement, totally disagreement) towards asked statement.

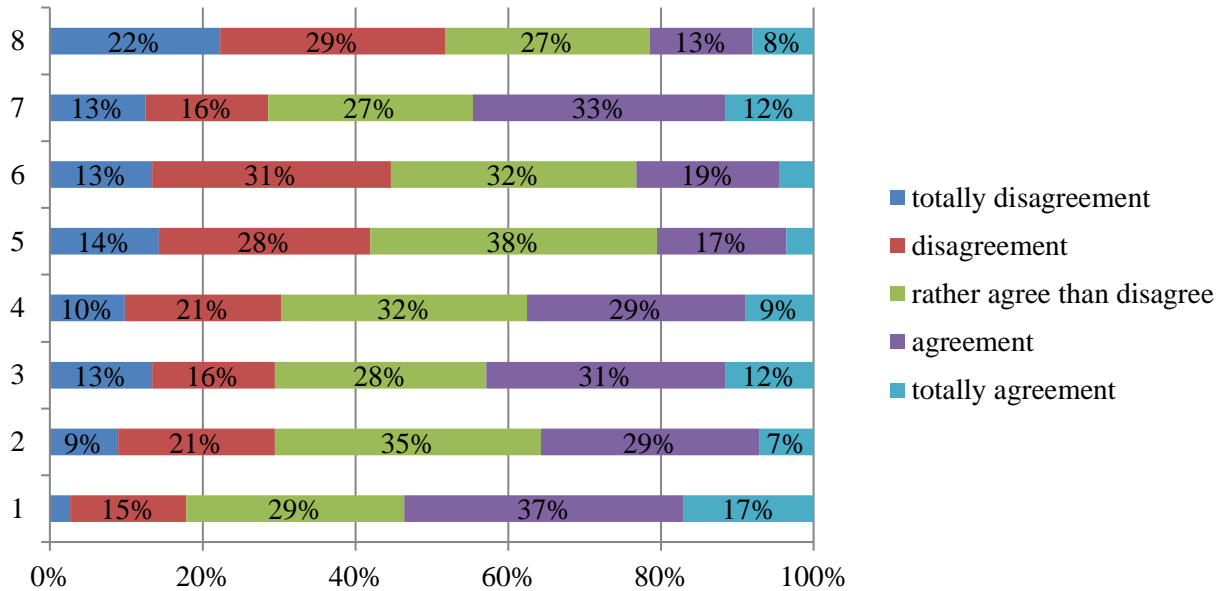


Figure 3. Full picture of the purchase intention among the respondents  
Source: author's calculations

Notes:

If  $n\% < 5\%$  then the  $n\%$  not displayed.

Numbers in y-axis are staying for:

1. When possible I choose products which cause the least pollution.
2. I avoid manufactured products that damage or disrespect the environment.
3. I pay a somewhat higher price for products and food free of chemical substances which damage the environment.
4. I may pay more to buy organic products since they do not impact the environment.
5. I verify whether a product that I intend to buy does not damage the environment or other people.
6. I decided to buy compacted products to reduce gas emission into the atmosphere.
7. I decided to buy refill products so that the previous wrapping need not be disposed of.
8. I decided to buy some products (currently bought in smaller sizes) in bigger sizes and with less frequency.

As we can see, the respondents demonstrate similar attitudes through all statements which are staying for the evaluation of the consumers' purchase intention. According to the results from the figure above, if to take the first statement "When possible I choose products which cause the least pollution" 17 percent of the respondents show their total agreement to purchase less harmful product when it is possible, the main amount of the respondents demonstrate their

agreement towards the statement (37 percent), a bit less (29 percent) are rather agree to buy environmentally friendly products instead of conventional than disagree, 15 percent out of all participants demonstrate their disagreement with the statement and only 3 percent cannot relate themselves to the statement.

Table 3. Environmental concern and purchase intention relation

| №  | Statement content   | EC  | PI  | Statement content  | № |
|----|---|-----|-----|--|---|
| 3  | I understand that organic products do not impact the environment          | 79% | 63% | I may pay more to buy organic products since they do not impact the environment                              | 4 |
| 10 | Plastic and paper bags destroy natural resources                          | 91% | 75% | When possible I choose products which cause the least pollution possible                                     | 1 |
| 11 | I try to reuse wrappings when possible                                    |     |     | I avoid manufactured products that damage or disrespect the environment                                      | 2 |
|    |   |     |     | I decided to buy refill products so that the previous wrapping need not be disposed of                       | 7 |
| 1  | Firms that damage or disrespect the environment should be punished        | 98% | 63% | I pay a somewhat higher price for products and food free of chemical substances which damage the environment | 3 |
| 2  | Agricultural toxins and dangerous substances in food harm the environment |     |     | I decided to buy compacted products to reduce gas emission into the atmosphere                               | 6 |

Source: Hair *et. al.* (2013); author's calculations

Notes:

EC – environmental concern.

PI – purchase intention (of green products).

Columns with the “number” represent the order number of the statement in the Figure 3 and Figure 4. Columns with the “statement content” represent the statement on which respondent asked to answer. EC and PI deliver the general percentage of the respondent behavior and attitude (respectively). This table demonstrates the relations between environmental concern and



purchase intention to purchase green product at retail. Discussing of the results will be presented in the next subchapter.

In order to get the average result from the data “totally agreement”, “agreement” and “rather agree than disagree”, which represents positive attitude of the respondents, following formula was used:

$$\frac{A_{T1} + A_{t1} + A_{a1} + A_{T2} + A_{t2} + A_{a2} + (\dots) + A_{Tn} + A_{tn} + A_{an}}{N}$$

where

A – statement on consumers’ environmental concern (e.g. “Firms that damage or disrespect the environment should be punished”),

T – totally agreement,

t – agreement,

a – rather agree than disagree,

n – statement number,

N – total number on statements used in the equation.

We need to make the calculations to see the general level of respondents’ green purchase intentions. After making the appropriate calculations the answer is 66 percent. The result will be further discussed in the next discussion part of the chapter.

To see if there any relationship between environmental concern and purchase intention, the comparisons between variables from both environmental concern indicators and purchasing intention indicators made. Results presented in the following table.

### **3.3. Discussion**

This paper assessed level of consumers’ intentions to buy green products in retail, the influence of environmental concern on the purchasing and find out what is the nature of environmental concern among the Estonians.

The demographic characteristics presented in this paper tells that 55 percent of the respondents are 20-25 years old, 69 percent of all respondents female, main part of the respondents grow up in urban area (78 percent), they either employed or bachelor students and earning salary which is their main income source. To give the correct answer about the nature of the environmental concerns among the Estonians is hard using only quantitative research method. Moreover, the

amount of the participants should be significantly bigger. Lordelo *et al.* (2000) at their study proved that the behavior different for the different amount of people, as they can belong to different social communities and live in different economic conditions or any other external or internal factor that have some influence on the object.

Anyway we can use current data to assume what is the nature of the environmental concerns among the Estonians. The results represented in Figure 4 demonstrate participants' concern for how their consumption and usage of some products may impact animals and other external subjects in and outside of the production chain. Statement 5 from the Figure 4 demonstrate that 88 percent of the respondents showed strong concern about dirtying streets by others, from the statement 10 and 11 we can see also positive picture (76 percent and 70 percent respectively) aware that the plastic bags are harmful for the environment and prefer to reuse them.

Based on the data contributing from the questionnaire respondents' have also significantly high level on the purchase intention, 66 percent of the respondents showed positive attitude. This is a good news, this can mean that Estonians more or less care about their impact on the environment. But this does not mean that they really follow their intentions, means that purchasing intentions is not a declared purchasing. Often the buying decision or the person is not the one desired by him or her, but the decision that best suits needs and ability at the specific period of time, mostly at the moment of taking such decisions (Bagozzi 1981).

Nevertheless, we can see if there any relation between environmental concern and purchase intention. Thus we will get the answer for the first research question, if environmental concerns influence the purchase intention. Current work shows that the level of the concerns among the respondents is high and the level of the purchase intentions of green products also high (66 percent and 62 percent).

To see the number (%) of the positive behavior the same equation was implemented on the Figure 4. There is no need to make the separate calculations for the negative behavior and attitude of the respondents, as only two variables presented (totally agreement and totally disagreement), total amount of which is 100%.

Data from Table 3 demonstrate that relation between environmental concern and the purchase intention relatively high. We cannot be sure that the same connection would be if there would be

bigger number of the participants, with different demographic characteristics, but in the current paper relation relatively strong.

To be sure that the respondents are aware of what the environmentally friendly products are, a statement from the first row was used. As we can see the results are positive. From the second and the third rows we understand that the relations between two variables are relatively strong. The coefficients of the agreements with the statements are higher than 62 percent.

Using the results and the theoretical overview of the research we can give the answer on the first research question. There are certain relationships between environmental concern and purchase intention, but to see if environmental concern influences the purchase intention, the contributed data is not enough. To give the appropriate answer on the question it is required either to make qualitative research or increase the amount of the respondents.

## CONCLUSION

The unified character of Earth's system can be compared with the function of a mechanic watch. Each detail in this watch is an integral part of the hall system. Each detail has to be not damaged in order to let the entire system work optimally. If any part of the watch take away the correct working process will be violated. The Earth's system follows similar rules, they are interconnected in the same way but more complex some consequences can be irreversible

Even though government sets different limits for the harmful processes, people have to change their behavior towards the environment, to minimize human negative impact on the planet. The relationship with environment can motivate to develop the positive attitude towards the nature and create healthier lifestyle by shaping values of the society, thereby affecting on their behavior (Nisbet *et al.* 2009).

“It has been theoretically reasoned and empirically validated that values play a significant role in explaining specific beliefs and behavior and can therefore be used for various variables such as attitudes and behavioral intentions” (Stern, 2000).

The aim of the paper is to identify how low or high intention of the Estonians consumers to purchase environmentally friendly product at supermarket retail. First research question of the paper is: “Do an environmental concerns influence the purchase intention of green products at retail?” Second research question of the current work is: “What is the nature of environmental concern among the Estonians?”

The answers on asked question determined with using the quantitative research methods. The research was made by using the online questionnaire. 139 is the total amount of the participants in the survey, in the analyses process 27 participants were detached as they not suits the demographic characteristics which are required in this thesis paper.

The detailed study of the aim of this work found that the respondents have high level of the green product purchase intention. Results of the current paper support previous findings about the relations between environmental concern and purchase intention. Yet the influence of one variable on another not assessed, because of the limitations in the variety of the respondents. Study revealed following nature of the environmental concern among Estonians: dirtying streets by others this means that they tempted to keep the environment clean, concern regarding the harmful impact from plastic bags and wrapping materials, another example also presented in the study.

This work and its findings contribute some important quantitative data in other studies on the environmental concerns and attitudes on this meter, findings also provide some practical implications for the market researches. Notably, current thesis work confirms that the link between environmental concerns among the Estonian and their intentions to purchase green product exist and this connection is quite strong.

Moreover the study show that the consumers have required knowledge about the benefits of consumption of environmentally friendly products, in the theory this positive knowledge can influence the changing of current lifestyle toward that one which is less harmful for the environment (Huang *et al.* 2014). In this respect, to increase the beneficial changes for both variables (internal and external), market can proved more detailed information on the green product (e.g. production process, packaging) in order consumers could get the new knowledge and following the received information, form their decisions toward environmentally friendly products.

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