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CONSUMERS' BEHAVIORAL DETERMINANTS IN ADOPTION OF ECO-INNOVATIVE TECHNOLOGY

Master thesis

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TABLE OF CONTENTS

ABSTRACT

The aim of the thesis is to profile the consumers likely to adopt eco-innovative technology and to uncover which factors determine the consumers' decision and through this contribute to the understanding of consumer choices for high-envolvement eco-innovative technology. The thesis finds that the early adopters of the narrowed research objective of indoor plant-growing technology are in the age group of 26-44 years, with a monthly family income of EUR 2500-4000 and with positive attitude towards the potential benefit of the more automated and faster indoor plant growing technology. Additionally, their main approach motivation is sustainable living, decrease in waste, less concerns about the harmful substances in the greens and beneficial learning effects, whereas the main avoidance motivation is decrease in resting quality and complexity of the technology. There is no significant differences between early and late adopters of eco-innovative technology in their values and motivations, whereas the early adopters attitudes indicate a strong relationship with their purchasing intention.

Keywords: eco-innovation, technology, consumer, attitudes, values, motives, green consumerism

INTRODUCTION

The master thesis is inspired by authors' business endeavours in developing eco-innovative technology. The reason to research eco-innovation, which covers many traits of processes, products and activities that have environmental benefit, lies not only in the altruistic reasoning, but also in the fact that due to the production and transportation costs, and global waste management issues, the competitiveness and survival of companies and even countries is increasingly linked with their ability to "eco-innovate" (Arundel & Trait, 2009). Notwithstanding the relevance of topic, the research on green consumerism focusing on technology choices that are helping to shorten the supply chains and banish waste, is scarce and there is a gap in knowledge explaining the behavioral determinants behind the consumer choices.

The thesis lies mainly on the Diffusion of Innovation theory (Rogers, 2010) and the consumers' behavioral theories – the Value-Belief-Norm theory (Stern, 2000) and the Approach/Avoidance theory (Carver, Sutton & Scheier, 2002). Considering that the research objective includes several variables such as innovation, technology and green consumerism, thus potentially multiple motivations or goal frames (Vleck & Steg, 2007), the author has used a multidimensional framework in tackling the research objective to identify the behavioral determinants through explaining the consumer attitudes, motives and intentions.

The aim of the thesis is to profile the consumers likely to adopt the new age products and to uncover which factors determine the consumers' decision to purchase eco-innovative technology and through this contribute to the understanding of consumer choices for unconventional technology. The thesis is outlined to provide market data for authors' business endeavours and could provide valuable insight for other similar ventures based on innovation and eco-technology. According to the previous research (Follows & Jobber, 2000; Vlek & Steg, 2007) it is recommended that environmental behaviour should be assessed for specific products rather than general environmentally responsible purchase patterns. Therefore, the author has focused the research questions to eco-innovative technology, more specifically to indoor plant growing technology.

The thesis investigates the consumers' behavioural traits in purchasing eco-innovative technology by focusing on four research questions: (1) What are the values and attitudes of consumers towards indoor gardening? (2) What would be the motives of consumers in purchasing indoor plant growing technology? (3) What is the intention of consumers to purchase indoor plant growing technology in the future? (4) What is the profile of the early adopters of indoor plant growing technology and the product characteristics determining the adoption? In order to answer the research questions, four research tasks were set: (1) to find the consumer values and attitude drivers for purchasing indoor plant growing technology; (2) to find the consumer motives for purchasing indoor plant growing technology; (3) to find the consumer intention of purchasing indoor plant growing technology (4) to profile the early adopters and evaluate the product characteristics.

RQ1: What are the values and attitudes of consumers towards indoor gardening?

CONSUMERS' BEHAVIORAL DETERMINANTS IN ADOPTION OF ECO-INNOVATIVE TECHNOLOGY

T1: Finding the consumer values and attitude drivers for purchasing indoor plant growing technology

RQ2: What would be the motives of consumers in purchasing indoor plant growing technology?

RQ4: What is the profile of the early adopters of indoor plant growing technology and the product characteristics determining the adoption?

T2: Finding the consumer motives for purchasing indoor plant growing technology

T4: Profiling the early adopters and evaluating the product characteristics

RQ3: What is the intention of consumers to purchase indoor plant growing technology in the future?

T3: Finding the consumer intention for purchasing indoor plant growing technology
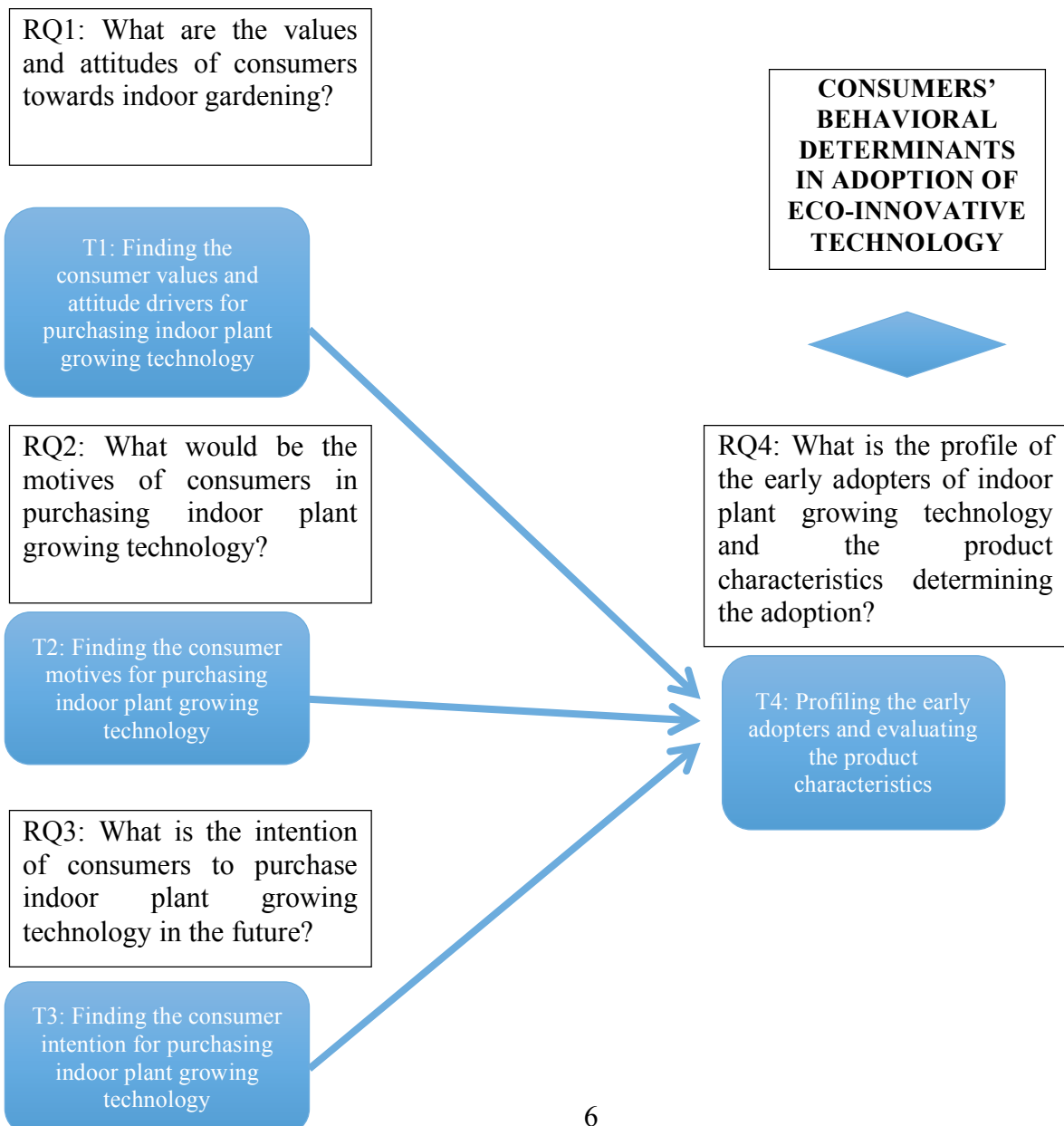
Figure 1: Research questions, tasks and interconnections. Source: compiled by the author.

The aim of the thesis will be fulfilled by collecting information from a multi-national sample, focusing on potential innovators and early adopters of innovative technology. The information is collected via online questionnaire, whereas the sample is pre-selected by author allowing for a higher concentration of early adopters. The expected result is that the findings from the survey would generate valuable know-how for eco-innovative projects and contribute to the further understanding of consumer behavior in this scarcely researched topic.

The thesis is structured as follows. In Chapter 1 the theoretical framework is outlined, including the consumer behavior theories and acknowledged extensions to the theories. Chapter 2 explains the research methodology and research design, including validation of the research method and sampling, data collection and analysis. Chapter 3 reveals the findings and discussions from the findings. The chapters are followed by conclusion, list of references and appendices.

1. THEORETICAL FRAMEWORK OF THE SURVEY

This chapter determines the theoretical framework for profiling eco-innovative technology consumers through demographics, attitudes, motives and intentions, and builds the foundation for the research. The author will provide systematic theoretical basis for the research and widen the well acknowledged theories with research material in order to tailor to the cause of this study.

The main theories that the thesis based on are the Diffusion of Innovation, Value-Belief-Norm Theory (VBN Theory) and the Approach-Avoidance Theory as set out in Figure 2.
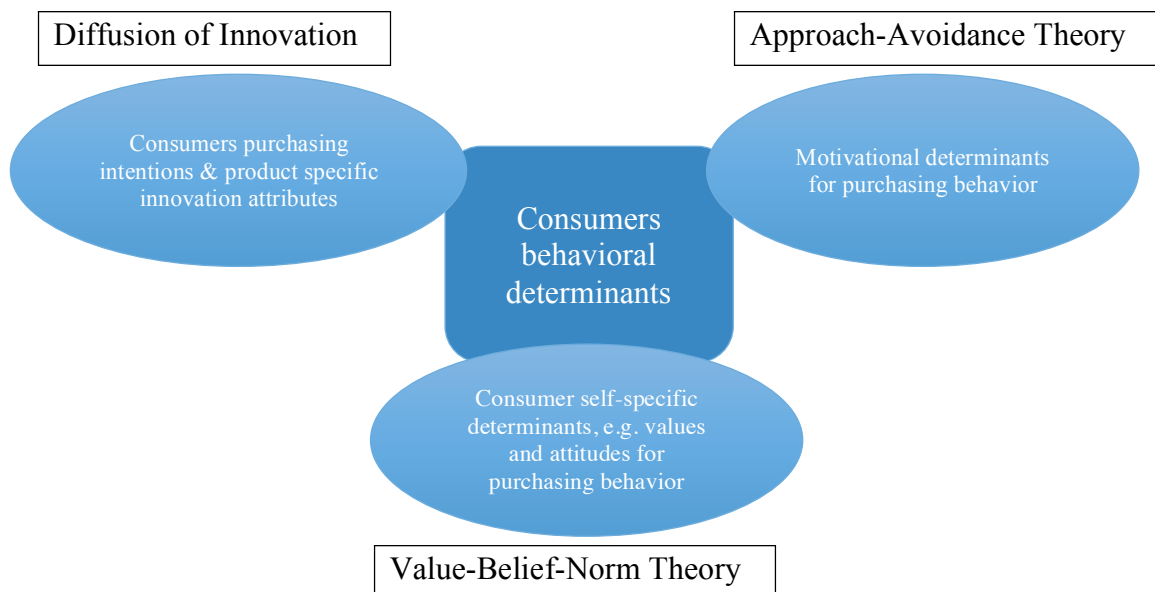

Figure 2: Positioning consumer behavior theories for the survey. Source: compiled by the author.

As illustrated above the Diffusion of Innovation theory will provide the basis for dividing the consumers into adopter categories based on their purchasing intention, whereas, the innovation attributes by Rogers will helpful for explain the purchasing decision through forming the product specific questions. Value-Belief-Norm Theory inputs the consumer self-specific factor enabling to uncover the personal profile of adopters. The main motivational theory used in the thesis -

Approach-Avoidance Theory gives the framework for motivational drivers to understand which characteristics create the approach motivation and which allow for the opposite reaction of avoidance motivation.

1.1. The Diffusion of Innovation

The diffusion process refers to a phenomenon that indicates the spreading of an innovation among consumers (Loudon & Della Bitta, 1993), thus speeding up of the diffusion process is the key to successful innovations (Rogers, 2003). It is well known that not all the consumers will adopt the innovation during the same time frame and for that reason it is possible to classify consumers based on the adoption time. While doing so, we would uncover that the consumers adopting the innovation at a relatively same time span have similar characteristics (Loudon & Della Bitta, 1993).

Rogers has divided in his Diffusion of Innovation theory the consumers into five adopter categories: innovators, early adopters, early majority, late majority, and laggards (Figure 3). This division follows a standard normal distribution curve and takes into account the relative speed that consumers adopt innovative ideas, products or services (Rogers, 2003). The innovators and early innovators are crucial elements for determining the success of innovative products as these early buyers have influence on other adopter groups through showcasing the product and spreading the word of mouth.
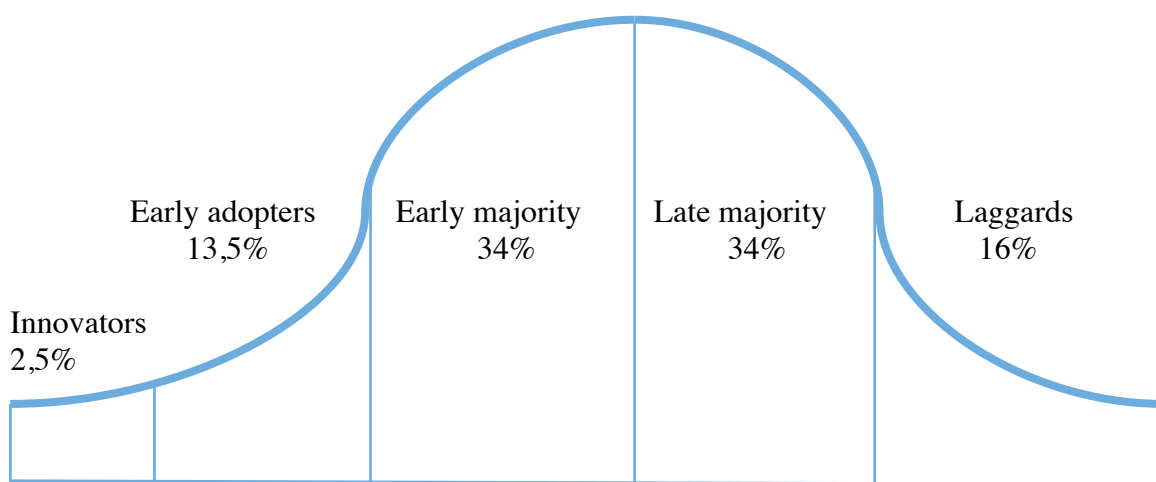

Figure 3: Rogers Diffusion of Innovation adopter categories. Source: Rogers, 2003; compiled by

the author.

One might argue that the percentage of population belonging to each adopter category is relatively pre-set and determined (Sethna & Blythe, 2016), but if that was whole truth the launch of innovative products should have a similar outcome in many cases. However, the problem with identifying innovators is that they are not usually innovative in all their buying habits and everybody is at some point along continuum (Sethna & Blythe, 2016). Also, these classifications give no indications about the characteristics of the person and it must be additionally noted that innovativeness as a personal characteristic is not constant being influenced by social factors and varying across a person's life cycle (Cowart, et al, 2008).

The author however agrees with Hirschman's (1980) vision that innovativeness in consumers can be likened to inherit novelty seeking and, the innovators and early adopters are likely to pursue their innate attraction to new products (Cowart, et al, 2008). For that reason the study sample is pre-selected and targeted to consumers that are showing signs of adventurous will, whether its manifested in living abroad, entrepreneur lifestyle or simply by having a history of buying new age products.

The study sample will be categorized based on their answers into adopter categories, whereas the author predicts that identifying the innovators and early adopters for eco-innovative technology and profiling them, would not only provide indication on the length of diffusion process for the product, but also valuable marketing insight. The study is set up to reveal the potential innovators and early adopters, early majority, late majority and non-adopters (or potential laggards) through questions linking to purchasing intention and it must be noted that the scope of the study creates the need to divide the adopter categories into two generic groups of early adopters (innovators, early adopters and early majority) and late adopters (late majority and non-adopters). Furthermore, determining global or innate innovativeness of the study group is not the aim of this thesis as the consumer generic propensity for innovations is not a clear marker for intention (Karaarslan & Sükrü Akdogan, 2005).

1.2. Attributes of Innovation

Rogers' research into the Diffusion of Innovation implementation led to the identification of five attributes of innovations that might explain the differences in adoption rates (Ronteltap, et al; 2007; Rogers, 2003), which in the scope of this study form the first basis for product related research questions. Rogers' model has a generic character, thus applying detailed product related questions, is essential for gaining the explanatory benefits (Ronteltap, et al; 2007). Below each attribute of innovation is explained and if relevant for the objective of this thesis, accompanied with example of related question from the questionnaire.

The first attribute, the relative advantage is explained as delivering an advantage over previous methods e.g. the way that indoor plant growing technology could be expected to supersede the traditional growing methods or products currently on the market. Relative advantage could be expressed for example in monetary savings, group belongings, social status, savings of time and money (Rogers, 2003). In the questionnaire the related questions are for example: "If you were to choose indoor technology for growing your greens please indicate the importance of the features: b) Fast growing greens."

Compatibility is explained as the level in which the innovative product is compatible with consumers existing sociocultural values and beliefs, experiences and needs for the innovation (Rogers, 2003). The more compatible the innovation, the more likely it is to gain momentum through providing more certainty and credibility for the consumer. For example: "Please indicate if you agree with the following phase: a) I buy ecologically grown greens (…) (values), "What plants do you grow indoors?" (past experience); "Do you think you could benefit from indoor plant growing technology?" (needs).

The third attribute that could explain the potential diffusion rate of the innovation is complexity. This attribute is explained as the level to which the innovative product is perceived difficult to use and/or understand (Rogers, 2003). In the thesis the complexity is touched upon within intention, e.g. " If you declared that you would not buy innovative indoor plant growing technology in the future, please indicate the reason: b) I find the technology too unconventional/complex."

The fourth attribute of triability refers to the degree of pre-purchase testing by the consumer and the fifth element of observability to the visual occurrence of the product. Due to the lack of pre-purchase testing possibilities for the survey objective and for the very straight forward product functionality, the author has concidered both of these attributes not applicable for the study focus. The main resasoning for this lies in the predictable outcome of baseline questions and the potential evening out effect from the exptected negative effect of product triability and positive effect of product observability.

In addition to the attributes a critical element in Rogers theory of innovation that contributes to consumer's attitude towards the usage of a new technology is the trade-off between costs and benefits, e.g. the perceived cost, that the innovative product delivers (Ronteltap, et al; 2007; Pantano & Di Pietro, 2012). Thus, the initial product price can determine the adoption or non-adoption, but also the operating reoccurring costs have an important role. For this reason the following question with different value ranges is incorporated to the study: "If you were to choose indoor technology for growing your greens please indicate the importance of the features: g) affordable price for technology, h) low maintenance cost. "

Extending the attributes further, it has been suggested by Copeland that consumers make their evaluations and adoption decision partially by a set of emotional desires. This hedonic perspective notes that consumers often adopt products at least partially for the anticipated sensory stimulation, appreciation of fun or other aspects that generate the sense of emotional "high" (Loudon & Della Bitta, 2002). For this reason the questions drawing in on the aesthetic function of the research objective were added to the questionnaire, e.g. "Please indicate your agreement with phrase: Choosing an indoor technology to grow my edible greens will provide aesthetic design/decoration element for interior."

1.3. The Value-Belief-Norm Theory

Much of previous consumer research has been focused on green consumerism or pro-environmental curtailment behaviors, which have made evident that green consumerism derives from individual factors such as values, beliefs, and norms (Jansson, Marell & Nordlund, 2011). A theory that utilizes this understanding is the Value-Belief-Norm (VBN) theory (Stern, 2000). It is prepositioned that biospheric values, ascription of responsibility, and personal norms have

influence on curtailment behaviour, and even though not much researched, also on the adoption of eco-innovation (Jansson, Marell & Nordlund, 2011).

The VBN theory declares that there are additional factors affecting the purchasing choices besides consumption specific attitudes and these factors are: fundamental values; behavior specific beliefs; and personal moral norms (Jansson, Marell & Nordlund, 2010, p 359–360). According to Stern the theory is set up as a causal chain from personality elements and beliefs to more focused beliefs about pro-environmentalism (Figure 4). It is prepositioned that each element in the chain directly affects the next variable (Stern, 2000). Thus, if an individual is aware of the environmental consequences and ascribes responsibility for taking actions to themselves, a personal norm develops, which is very likely to affect actual behavior (Stern, 2000; Bamberg and Schmidt, 2003).
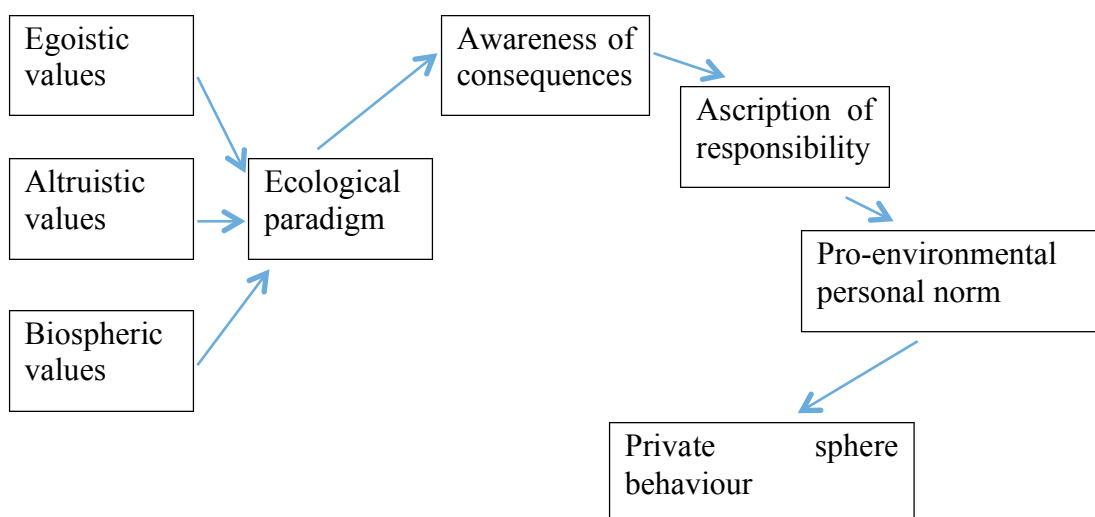

Figure 4: Interconnections illustrating the causal chain of VBN theory. Source: compiled by author, based on Stern, et al, 1999.

Within VBN theory, several types of individually held values have been found to affect green consumer behavior. The values most strongly related to activating personal norms and thus influencing green behaviors have been found to be social-altruistic, biospheric and egoistic values (Stern et al., 1999; Jansson, Marell & Nordlund, 2011). For that reason, the sample group was asked to rate in five-point Likert scale the personal importance of these potentially influential values (Figure 5) to uncover if the values are associated with the purchasing intention

of eco-innovative technology and which values guide the decision process of the eco-innovative technology product adopters.

Egoistic values
- Authority
- Wealth
- Social power
- Influence

Altruistic values
- Social justice
- Equality
- A world in peace
- Helpfulness

Biospheric values
- Preventing polution
- Protecting the environment
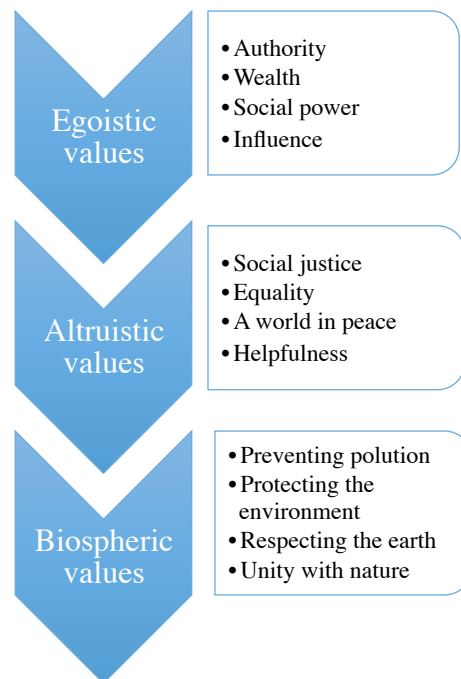- Respecting the earth
- Unity with nature

Figure 5: Values relevant for high involvement eco-innovative purchases. Source: created by author, based on Jansson, Marell & Nordlund, 2011.

In addition to values the author has added emphases to consumer attitudes towards eco-innovative technology. "Attitude" is defined as a psychological tendency that is expressed by evaluating an entity with some degree of favour or disfavor (Eagly & Chaiken, 1993). The attitudes can be used to explain why some advances are adopted or opposed. Attitudes towards abstract concepts are normally termed 'values'. Both attitudes and values should be considered when researching consumers' responses to innovative products as both are likely to influence the outcome (Frewer, 2003). Katona has argumented that attitudes are important markers for the willingness to buy durable products as these purchasing decision can be postponed and made according to financial situation and at the persons own discretion (Ägren & Jonsson, 2019). In order to uncover the attitudes of the sample group they were asked the following question: "Do you think you could benefit from a technology allowing to grow edible plants faster and more automatic at your home?".

The author notes that the attitude-relating theorizing has two framework theories: VBN theory from Stern, et al, which focuses on values and morals and the Theory of Planned Behavior by Ajzen, which focuses on rational-choice and self-interest (Kaiser, et al; 2005). The author has decided to ground the study on VBN theory, as the biospheric values form the basis for eco-innovative product development.

1.4. Approach/Avoidance and Means-End Theory

The Approach/Avoidance Theory is rooted in the ethical hedonism of ancient Greek philosophers who described pursuit of pleasure and avoidance of pain as the guide for human behavior (Elliot, 1999). The adoption of innovative product presents a goal conflict for many consumers – in one end there are the potential incentives (e.g. cost efficiency, product benefits, memberships) and on the other end the potential threats (e.g. product complexity, social ridicule) (Cowart, Fox & Wilson, 2008). Thus, the consumer weights the incentives in relation with the risks and if either of them dominates, it triggers either approach or avoidance motivation, which is likely to lead to behavior. The direct behaviors from motives may help to explain the potential diffusion likelihood of innovative products (Cowart, Fox & Wilson, 2008) according to previous research.

The author has also tested the concept of hedonic consumption being an exception to Approach/Avoidance theory (Zoll, Specht, et al, 2018). This can also be described as the "technology paradox" that occurs with innovation and brings along conflicting reactions. Whereas, the hedonic emotions such as fun, entertainment and excitement could be the decisive factor in purchasing innovative products, as well as other product specific individual attitudes (Follows & Jobber, 2000). Also, the retail based research on Approach/Avoidance theory suggests that people who are avoidance-motivated seek for experiences which help to reduce stress and anxiety (Arnold & Reinolds, 2003). The hedonic consumption was tested in the survey on several occasion, e.g: "Please indicate your agreement with phrase: Choosing an indoor technology to grow my edible greens will/might provide meditative effect from nurturing greens".

The author has additionally rooted the motivational markers on the Means-End Theory by Gutman (1982), which provides fundamental theoretical support for explaining the influences of

motivational drivers on the consumer intentions. According to the Means-End Theory the decision making process is closely associated with products desired value as the product is a mean for achieving consumers' goals (Shin, Jung & Severt, 2019). Several products achieve the same goals as there are more objects than values e.g. the "ends" are a few, while "means" can be countless (Shin, Jung & Severt, 2019). In the innovative sphere new "ends" or in the first stage new needs can be created, whereas the author prepositions that the success of the innovative product can be determined by assessing if the product proposed goal is correlative with consumers values. The potential "ends" are exampled in the questionnaire through 5-point scaled questions, e.g. "Please indicate your agreement with phrase: Choosing an indoor technology to grow my edible greens will help me live more sustainably".

It must be additionally noted that the innovators are theorized in previous studies to be more sensitive to incentives, while having a more fluid self-concept allowing for new "ends" to connect with the consumers self conception more easily (Cowart, Fox & Wilson, 2008). Thus, it can be additionally tested, if the potential early adopter of eco-innovative technology are more variable in their values and attitudes than potential late adopters.

Earlier research suggests that consumers' concerns for the environment and consumption decisions generally are also driven by the need to construct self-identity (Connolly & Prothero, 2003). For this reason some of the motives in the survey are presented in the self-identifying vision, e.g. "Please indicate your agreement with phrase: Choosing an indoor technology to grow my edible greens will make me look innovative and add to my adventurous persona".

1.5. Intentions

According to Ajzen the consumer intention to purchase products is significant indicator of actual purchasing behaviour (Ajzen, 1991). Intention is by far the closest predictor of actual purchasing behaviour as people that state their willingness to buy are much more likely to make the actual purchase (East, et al, 2017). Even though the consumer attitudes in the scope of the study were not anchored to the Theory of Reasoned Action by Ajzen, the theory is used for evaluating the reasons behind the purchasing intention. The central factor in the theory is the consumers intention to perform a certain behaviour, where the intentions conclude the

motivational factors by showing how much effort one is willing to make for the result, e.g. for the acquisition of the product in bundle with its rewards and related costs (East, et al, 2017).

This study is particulary interested in the intention of consumers to purchase innovative indoor plant-growing technology. The question for intentions forms the basis for the adopter categories and is prepositioned through potential timings for purchase, e.g. "Please indicate your intentions for purchasing an indoor plant growing technology in the future: a) would buy as soon as I find an appealing technology". Sometimes the non-motivational factors, (e.g. monetary situation, available time, etc) will overthrow the intention (Azjen, 1991) and for that reason it is tested in the survey what is the indicative price range the sample group would be willing to spend (if at all) on the indoor plant growing technology: "Please indicate the price range you would be willing to concider spending for innovative indoor plant growing technology: a) Less than EUR 100 (…)".

2. SURVEY METHODOLOGY

In this chapter, the research methodology is explained. Firstly, the author has discussed the choice of methodology and the survey design, thereafter the sampling and data collection. In the last part of methodology the data analysis methods are discussed.

In order to answer the research questions the author opted for a quantitative approach in the form of an online questionnaire. The latter was chosen due to the international reach of the eco-innovative products and export orientation of the indoor plant-growing device in development. Also, quantitative approach allows for generalization and a wider usability of the results, including potential detection of suitable launch market for the indoor plant-growing device.

It must be noted that the survey objective was generalized to "indoor plant-growing technology" due to the confidential nature of products under development and the unsuccessful initial testing of the product-specific questionnaire, which included suggestive picture material and more detailed questions. The author concluded that the consumers understanding of the developed products without revealing sensitive data and concrete product visuals, was insufficient for producing trustworthy statistics. For this reason the more generic questionnaire based on the consumer theories and previous research was used to fill the objective of the survey.

2.1. Survey design

The design of the survey shows the framework of how the research question is answered and consists of the design character, measurements and scaling procedures, questionnaire, sampling process and data analysis plan (Malhotra, 2006). The survey has a conclusive design and a descriptive character allowing to describe the characteristics of early adopters of eco-innovative technology. Also, as the one selected sample from target population has answered the questionnaire once, the design is single cross-sectional *(ibid)*.

The questionnaire was divided into seven sections: pre-knowledge, current habits, values and attitudes, motives, intentions and socio-demographic data. The pre-knowledge and current habits were deemed important due to the innovative nature of the products in questions to find out about the potential consumer openness and predict the diffusion and usefulness of the products. Thereafter, more consumer self-specific and eco-innovation specific questions were asked under the attitudes, motives and intentions section. Lastly, the study group was asked to fill the socio-demographic data as previous research deemed socio-demographic factors very important in explaining the potential consumption of high involvement eco-innovation (Jansson, Marell & Nordlund, 2011). The division of sections is described in more detail below:

1. Introduction. In this section the aim of the survey is explained to the study group, in addition to approximate filling time of 8 minutes is indicated and the participants are kindly asked to leave their e-mail address and are additionally notified of anonymous data collection.

2. Background knowledge. In this section the aim is to find out what the consumer perceives as industrial growing methods and if they think the technological solutions for plant growing is safe. The ideas of the consumer about the reliability of the food production are re-visited in the values section with question relating to trustfulness of food in the supermarkets.

3. Previous experience. Questions in this section are very simple in characteristics with multiple-choice answers regarding the previous indoor edible plant growing experience. The aim is to understand the consumers' general behavioral patterns for indoor plant growing. The questions are crucial to detect if there is a correlation between previous experience and acceptance of innovation, e.g. the aim is to uncover the market readiness for this type of eco-innovative technology.

4. Consumer values and attitudes. The first general questions regarding values and connection to nature are screening questions to uncover if the potential adopters of the technology are green consumers or not. To be considered a green consumer the respondents would need to engage in majority, e.g. more than 50%, of the proposed eco-friendly actions due to the environmental benefits (Barbarossa, Pelsmacker, 2016).

Should they engage in majority of proposed, but for utilitarian reasons they are considered not green nor non-green consumers (*ibid*). On the contrary, to be considered a non-green consumer the respondents should engage in less than 50% of the proposed eco-friendly actions (*ibid*). Thereafter, the personal characteristics, most relevant for green consumerism are tested and the technology specific questions are left in the end of the section, where the aim is to understand if respondents perceive the technology as useful and what are the main features they expect the appealing technology to withhold.

5. Consumer motives. This section comprises of statements regarding the possible approach and avoidance motives for purchasing indoor plant-growing technology. The statements are rated on 5-point Likert scale. The aim is to identify the motivations of the early adopters and determine if there is a significant difference in motivations between the adopter categories.

6. Intentions. This section asks about the intention to purchase indoor plant-growing technology in the future and the price point the consumers would be willing to consider for the technology. The intentions are necessary to divide the consumers into early and late adopter categories, based on the timeline of their intention.

7. Sociodemographic data. In additional to the dependent and independent variables in the survey the last section comprises of questions relating to the age, education, profession, income and living status of the respondents. The personally sensitive data has been left to the very end of the questionnaire to avoid respondendt quitting the submission due to personal reasons. To further enchance the submission rate and taking into account the specifics of convenience sampling some of the questions, regarding marrital status and family income are indicated as optional.

They survey comprised of 27 questions and required all the questions to be answered (excl. aforementioned sociodemographic data) before moving forward to next question, thus eliminating potential problems of missing data. Some of the missing data in the survey responses is explained with changes in questionnaire during the active survey period. The late stage changes were encountered, as the author reviewed the results and deemed necessary to add more targeted questions on green consumerism, product features and trusfulness of food. The changes

were made after 1/5 of the respondents had answered the survey and it affected only 10% of the questions.

All the subsections of the online questionnaire were placed on different pages and the respondents would need to click "Forward" to see the questions from next sections based on Follows & Jobber (2000) survey. This approach led to 0% of unfinished surveys as the respondent did not anticipate when the questionnaire would finalised.

2.1.1. Survey scales

The author used two general types of scales in the survey to integrate simplicity and understandability. The Likert scales used in the survey are either four- or five-point scales with differentiated values and it was of principal interest to the author to dismiss the neutral scale and replace it with eliminating screening option of "*Don't know*". Thus, making it possible to dismiss early on the respondents that were either not sure of or did not want to disclose the information. The secondary aim was to enchanse the participants' motivation to finalise the survey, even if uncomfortable questions were encountered. The Likert scaled items were also reverse coded, with occasionally switched positive and negative scales, allowing for higher concentration from respondents.

Figure 6 gives the overview of sample questions with the scaling methods. The full questionnaire with all questions and scales included is set out in Appendix 1.

QUESTION	ANSWER	SCALE
What methods do you use for indoor growing?	A1: Traditional soil A2: Technologically modified soil A3: Watercultures A4: I don't have plants at home A5: Other (please specify)	Nominal scale allows to lable the variables with mutual exclusivity. Both multi-answer and single-answer nominal scales were used in the survey; some of the questions contained additionally an open field question.
Do you grow	a) Yes	Dichotomous nominal scale.

edible plants indoors?	b) No	
If you were to choose indoor technology for growing your greens please indicate the importance of the features.	A1: Ecological greens A2: Fast growing greens A3: Automated growing system (little effort) A4: Appealing design solution A5: Branding & social status of the product A6: Cost saving from buying greens A7: Affordable purchasing price for the technology A8: Low maintenance cost for technology	Likert scale was used (either 4 or 5-point): 1. Very important 2. Important 3. Slightly important 4. Not important 5. Don't know

Figure 6: Measuring scales used in the survey. Source: compiled by author.

2.1.2. Sampling

The quantitative data for the study was gathered ini the period of April-May 2019 through Google Forms online survey platform. The survey was fielded to a sample of multi-national consumers (n=57). To enhance to likelihood of innovative consumers convenience sampling was used and survey was targeted to expat communities and foreign members of international chambers. The latter choice was based on previous research suggesting that life events that consumers experience have positive influence on their innovativeness (Koschate-Fischer, et al, 2018) and living abroad as well as travelling is an indicator of adventurous will.

The sample size of 57 respondents is a limiting factor for the survey results. However, the sample size reflects mainly the tailored approach of the survey and the confidential nature of the project under development which is reason the selected respondents were specifically asked not to share the survey further.

The sample was limited to individuals with over 18 years of age with self-sufficient income that either lived abroad, had lived before for a prolonged period or travelled on regular basis. The

questionnaire was shared personally though authors personal network of expats filling the abovementioned criteria to find the suitable audience. The data was weighed during the process to ensure the multinational coverage. The demographic profile of the sample is shown in the Figure 7 below.

The variable	Scales items	Percentage of the sample
Age:	a) 18-25	9%
	b) 26-44	72%
	c) 45 – 65	15%
	d) Above 65	4%
Sex:	a) Female	62%
	b) Male	38%
Monthly family income (EUR):	a) Below EUR 1000	6%
	b) EUR 1001 – 2500	29%
	c) EUR 2501 – 4000	37%
	d) More than EUR 4000	28%
Nationality:	a) Estonian	26%
	b) Russia	15%
	c) Other (17)	59%

Figure 7: Demographic profile of the sample. Source: compiled by the author.

The demographics chosen for testing against the adopter categories for finding relevant correlations were age and monthly family income. Due to the large representation of female respondents and the high variability in the nationality group, neither of this data was deemed to provide statistically relevant outcome for this survey and was rejected in pre-screening.

2.2. Data analysing methods

The survey data is analysed using SPSS Statistics software and the diagrams and charts are compiled using Microsoft Excel. In the first phase the data is edited and the sample coded. In addition, for the Likert scales questions the missing data and answer option "*Don't know*" was re-coded with "0" eliminating them from the sample. As the survey contained Likert scales in

different scale order to keep the attention of the respondents the scale values were reverse-coded to reflect positive answers with a higher score before analysing.

The aim of the data analysing was to divide the consumers into adopter categories and then find the homogeneous characteristic in their relevant sociodemographic data, values, attitudes and motives. Thus, firstly the question regarding intention to purchase the indoor plant growing technology is analysed through simple frequency test. The results were therefter re-coded to represent early adopters (innovators, early adopter and early majority) and late adopters (late adopters and non-adopters) forming a base for correlation analyses and profiling of early adopters.

All nominal data was in the first phase analysed using simple frequences and thereafter crosstabed with Chi-Square Test of Independence test between two relevant groups of categorical variables. For measuring the correlation between relevant sociodemographic data, the age and family income, and the adopter categories Pearson's r was used.

The Likert scales data was pre-tested with Crohnbach-Alpha for internal consistensy to determine the reliablity of the selected Likert scaled items and thereafter tested through multivariate analyses with MANOVA (Hague, et al, 2016). In multivariate analysis the mean and standard deviation was used to determine the differences in variables for early adopters and late adopters.

3. SURVEY RESULTS AND DISCUSSION

3.1. Findings

In this chapter the results of the survey, divided into categories of consumer attitudes, consumer values, consumer motivation and consumer adopter categories, are discussed. In the sub-section of discussion, the profile of early adopters of eco-innovative technology is revealed along with factors determining adoption.

3.1.1. Consumer Attitudes

Under the section consumer attitudes the aim was to uncover the consumers attitude drivers for purchasing indoor plant growing technology. For this purpose firstly the previous experience was analysed and the results revealed that 60,4% of consumers grow edible greens indoors, whereas 39,6% do not, currently. The reasoning behind passive behaviour in growing edibles was distributed equally (15,1% each) between pre-determined options of not having enough time, not enjoying the process and finding it easier to purchase the greens. The reminder of the reasoning was related mostly with space restrictions and non-generalizable personal reasons, e.g. "my relatives grow the edibles for me; I tried and failed, etc".

Based on the frequency test the results revealed that most of the consumers are growing indoors decorative green plants, whereas the herbs are also a popular choice along with decorative blossoming and low maintenance plants as presented in Figure 8.
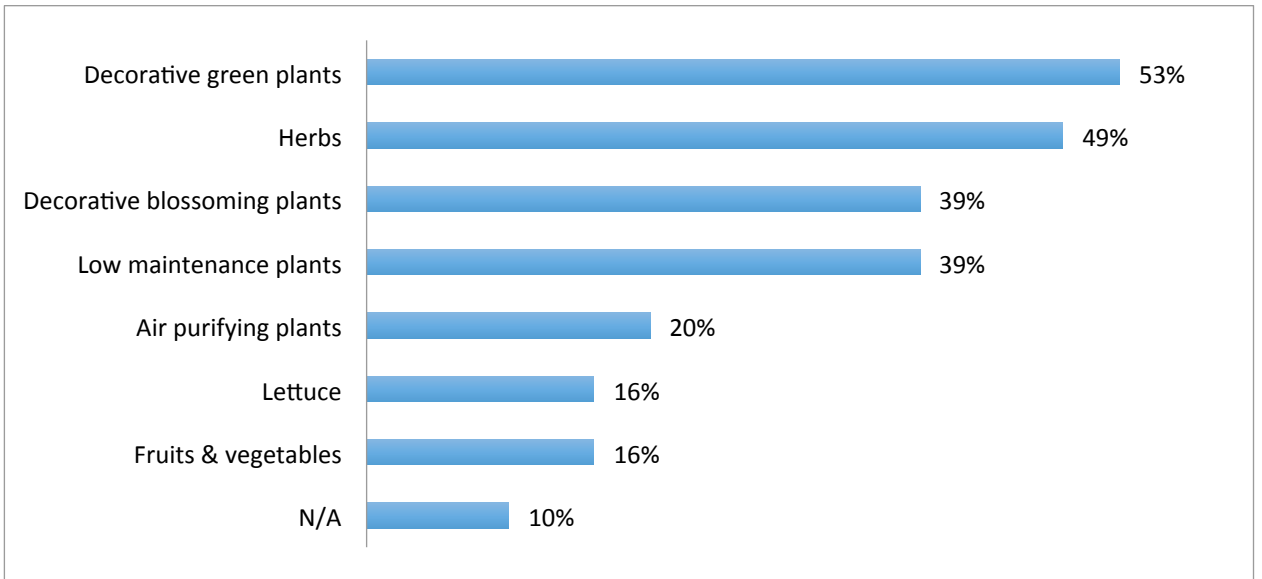
Figure 8: Plant types. Source: compiled by the author.

Due to the differences in consumer knowledge and possibilities offered by the indoor plant-growing technology the author deemed relevant to uncover the edibles consumers would like to grow indoors in ideal. The results indicate that even though 49% of respondents already grew herbs indoors an even larger audience of 87% would, on ideal conditions, like to grow herbs. Additionally, a further half of the respondents would like to grow indoors lettuce, strawberries, tomatoes and spinaches.
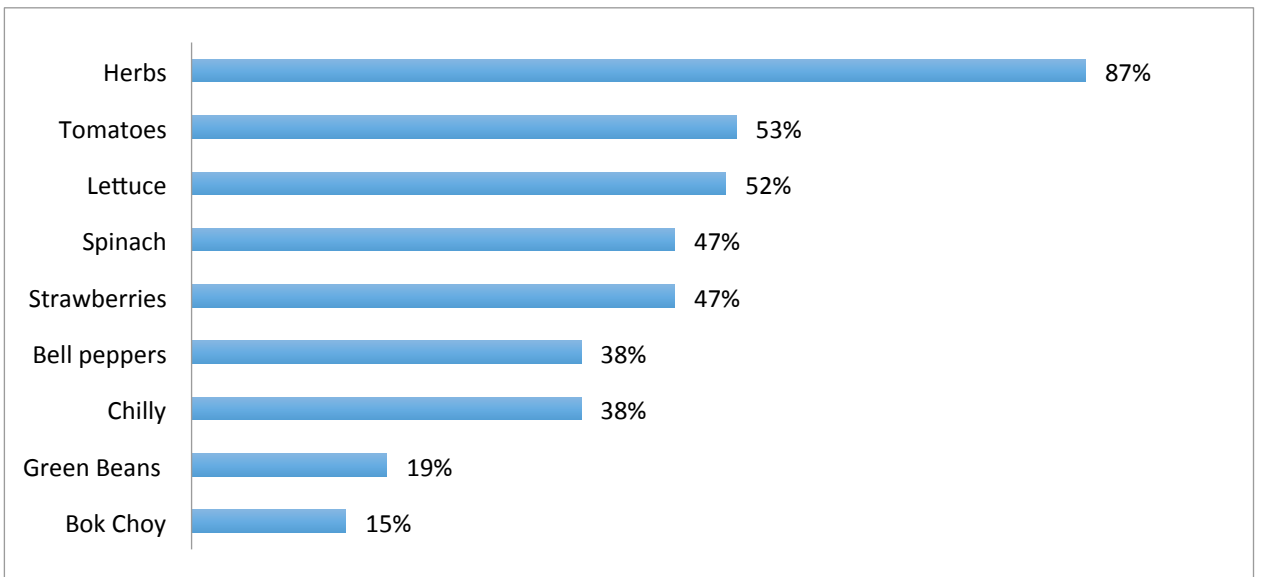

Figure 9. Edible plants. Source: compiled by the author.

The author did not see a beneficial outcome in testing these product/plant specific choices against the adopter categories as the general attitudes and behaviours are sufficient to fill the indicating purpose of consumer choice.

The needs of consumers was revealed under the questions of benefits and it was detected in the first phase of frequency testing that 68% of consumers had an overall positive belief, e.g. a potential need for and 32% a negative belief about the benefits of idoor plant growing technology.
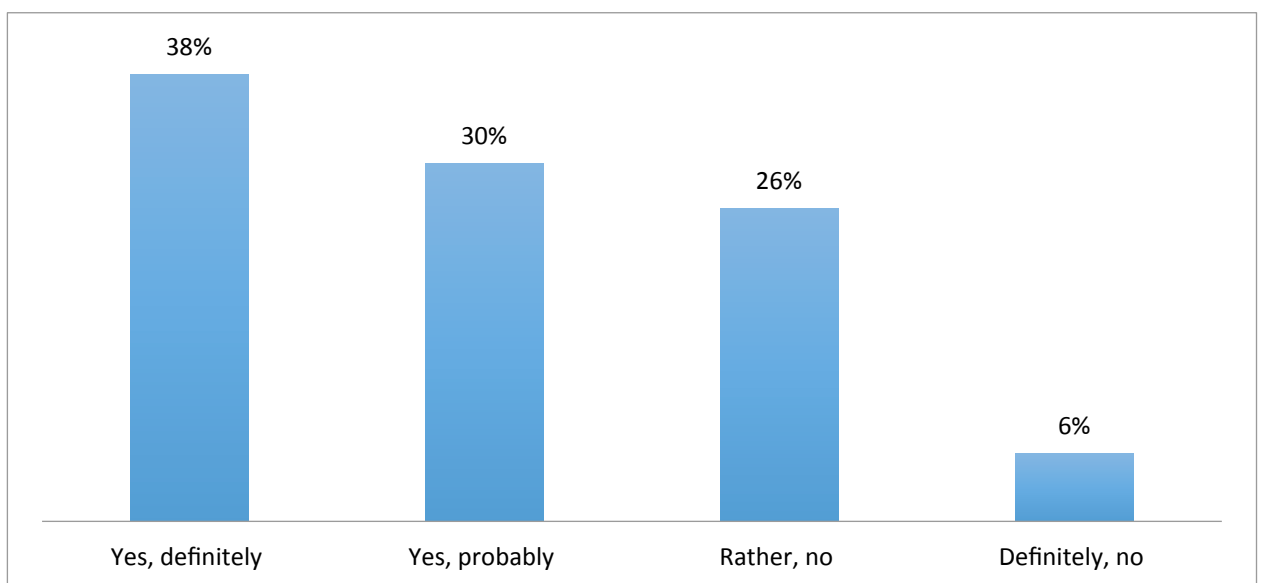

Figure: 10. Beliefs about benefits. Source: compiled by the author.

The consumers positive attitude towards the potential benefit of a more automated and faster indoor plant-growing technology was in a clear correlation with early adopters. The Pearsons Chi-Square significance value was .004 indicating a strong correlation. It can be concluded that the potential early adopters are consumers who believe that a technology that offers faster growth with minial effort can benefit their lives and potential provide a new "end" to the "mean". The consumers that do not identify the value in offered improvements or have no need for the technology in their daily life are likely to become late adopters or non-adopters. Thus, even though the consumer base for indoor gardening technology can be wide, the value proposal needs to capture the elements that consumers deem beneficial and are lacking with products currently available on the market.

In order to determine the product specific elements that could be most influencial with adopter categories and potentially lead to significant differences of adopter categories, the set of 8 product specifics was firstly tested with Crohnbach-Alpha for internal consistency of the results to determine the reliablity of the selected five point Likert scale (1. Very important, 2. Important, 3. Slightly important, 4. Not important, 5. Don't know) which values at .946 indicating high consistency within the chosen Likert scale. Thereafter a MANOVA test was conducted. The authors hypothesis was that the most relevant features are fast growth and the automated system and that there are no differences between the adopter groups relating the product features.

The MANOVA test on product features by adopter categories showed no clear correlation with Wilks' Lambda =.748, F (8.42)=1,76, p=.113, partial Eta=.251. Thus, the early adopter and non adopters do not have significantly different views on the importance of the product features. Therefore, the ANOVA and T-test for separate variables was further not conducted and the means and standard deviations of multivariate analyses was reviewed instead. The means of the product features with total means (not segmented by adopter categories) and standard deviations is set out in Figure 11 below.

Product feature	Total Mean	Total Standard Deviation
a) Ecological greens	2.6471	1.98820
b) Fast growing greens	2.4118	1.98168
c) Automated growing system - little effort	2.3529	1.74153
d) Appealing design solution	2.1569	1.72479
e) Branding & social status of the technology	1.2941	1.41837
f) Cost saving from buying greens	2.1373	1.74378
g) Affordable price for technology	2.5686	1.75790
h) Low maintenance cost	2.6667	1.75119

Figure 11: Based on SPSS Output. Source: compiled by the author.

The author has concluded that the most important product features for consumers are the low maintenance cost, possiblity to grow ecolgical greens, affordable price for the technology, and the fast and automated growth. Whereas, the consumers do not find the branding and social status of the product very important and also cost saving from purchasing greens and the design solution is slightly less important. Thus, the initial hypothesis was widened with adding a different variable of price into the predicted mix.

3.1.2. Consumer Values

The aim of the survey was to uncover the consumer values and to detect if there is a correlation between single values or value groups (egoistic, altruistic and biospheric) and adopter categories. For that reason, the set of 12 values was firstly tested with Crohnbach-Alpha for internal consistensy of the results to determine the reliablity of the selected five point Likert scale (1. Opposed to the value; 2. Not Important; 3. Important; 4. Very important; 5. Don't know). The Cronbach-Alpha value was .809, which indicates high consistency within the chosen Likert scale. The data was sorted and MANOVA test was performed on the attitudes to uncover the relation with adopter groups.

The MANOVA test on values segmentes by adopter categories showed no clear correlation with Wilks' lambda = .805, $F(12,38)=.768$, p=.678, partial Eta=.195. Thus, the early adopter and non adopters are not significantly different in their values. Therefore, the ANOVA and T-test for separate variables was further not conducted. However, as the interest of this survey entails evaluating the difference of value variablse for adopter groups the slight differences in descriptive statistics have been analysed. The relevant multivariate descriptive statistics results of the test are visible from Appendix 2.

The only values where the mean was more than 0.2 points higher for early adopters, preindicating a minimal difference in value base, where wealth and respect for earth. The value with a higher mean for late adopters was authority, whereas all the remining value bases remained in a close proximity for both early adopters and late adopters.

In addition to individual values it was of interest to the author to determine whether the early adopters of eco-innovative technology are also green consumers carrying forward a larger value base of sustainability. The testing of green consumerism was based on Barbarossa & Pelsmacker

model and the results indicated that the survey sample consisted of 43% of green consumers, 43% of neither green nor non-green consumers and 12% of non-green consumers and this based on low involvement green consumerism e.g. curtailment behavior. It was tested through Pearson r-correlation if there is a correlation between the early adopters and green consumerism and the results revealed that the correlation was low at .146 with a p-value of .374. This significantly higher p-value than the reference point of .05 indicates insignificant correlation between the variable and the author concludes that purchasing of eco-innovative technology is not direcly correlated with avoidance based or low involvement green consumerism, such as recycling garbage, saving water and monitoring energy consumption. This result also coincides with previous research from Follows & Jobber (2000) suggesting that the green behavioural traits of consumers are not constant and consumers express occacionally both green and non-green behaviours. Based on the survey results this inconsistency also applies to low and high involvement green consumerism, meaning that exercising green curtailment behaviours does not indicate consumers imminent interest to exercise high involvement green consumerism.

3.1.3. Consumer Motives

The correlation of consumer motives (consisting of 18 variables) with adopter categories were tested with MANOVA test, which indicated that there was no significant difference between early adopters and non-adopters concidering jointly the 18 variables of consumers' potential approach and avoidance motives for purchasing indoor plant-growing technology. The test results revealed the following results: Wilks' lambda = .527, F (18,32)=1.60, p=.121, partial Eta= .473. Thus, the early adopter and late adopters are not significantly different in their purchasing motives and barriers. Therefore, the additional separate ANOVAs and T-tests were not conducted.

Based on the means and standard deviations of all the motives and barriers in relation with the adopter categories the results revealed that the early adopters believed slightly more strongly that purchasing indoor plant-growing technology would help them live more sustainably, would help to decrease waste, would make them look more innovative, make their concerns about environment visible to their peer groups, bring along learning benefits and cost-saving from purchasing greens. Also, the early adopters were more prone to dismiss the potential avoidance motives of decrease in resting quality, complexity of the technology and the expense of the device. As for the hedonic consumption motives the early adopters were more inclined towards

the meditative effect, design and greenifying qualities of the technology. The relevant multivariate descriptive statistics results of the test are visible from Appendix 3.

3.1.4. Consumer Adopter Categories

Based on the purchasing intentions the results revealed that 17% of consumers were innovators and early adopters, 39,6% early majority, 34% late adopters and 9,4% non-adopters. The results for the adopter categories reflect the normal distribution curve of adopters by Rogers Diffusion of Innovation Theory. For the generalizing aim of the thesis the categories were tested against values and motives in two groups: early adopters (innovators, early adopters and early majority) and late adopters (late adopters and non-adopters).

Pearson's r was measured for the correlation between the adopter categories and relevant sociodemographic data, but no significant correlation was found. The signifigance level between of family income/adopter categories was .782, whereas for age/adopter categories the value was .811. The correlation was thus re-tested with Chi-Square Test of Independence and it indicated that there were significantly more early adopters in the montly family income group of EUR 2500 – 4000 than late adopters, whereas for the other income groups no significant difference for adopter groups was detected. Thus, for the profiling purposes the potential adopters of eco-innovative technology are concidered to be consumers earning a monthly family income of EUR 2500 - 4000. As the survey sample consisted of 72% of consumers in the age group of 26- 44 it was expected that there was no significant differences between the adopter categories. The age profile of the early adopters is 26-44 years.

3.2. Discussion

In this section the author will summarize the answers to the research question to uncover the answer to the main research objective, which was to profile the early adopters of eco-innovative technology and to determine the factors influencing purchasing decision.

To answer the first partial research question, what are the values and attitudes of consumers towards indoor gardening, two separate tasks were performed. Firstly, the attitudes and values were found and thereaftere, the relationship between the drivers and adopter categories was

31

measured. The results for first partial research question show that most of the consumers have a positive attitude towards indoor plant-growing technology and the biospheric and altruistic values were slightly higher rated for all the consumer groups. The author concludes that even though the positive attitude is direcly interconnected with the purchasing intention, there is no identifiable value basis that most of the early consumers share. Also, the testing of hypothesis on early adopters of eco-innovative technology being also green consumers gave a negative result. It is possible to conclude that the green consumerism is not a generic trait and the consumers practicing curtailment behaviours might not, and based on this survey, do not necessarily practice high envolement pro-enviromental behaviors. Also, the consumers might perceive that purchasing a product, even if eco-innovative and entailing enviromental benefits, as drifting further from their eco-beliefs as the production and utilization of the product will also leave an ecological trail. This hypothesis was not tested in the scope of current thesis, but might provide a basis for further research.

To answer the second partial research question, what would be the motives of consumers in purchasing indoor plant-growing technology, once again two separate tasks were performed. Firstly, the potential purchasing motives (both approach and avoidance motives) of indoor plant-growing technology were found and thereafter, the relationship between the motivaton drivers and adopter categories was measured. The most important approach motivations for the selected product were decreasing waste, sustainable living, beneficial learning effects and less concern about the harmful substances in our purchased greens. The most influencial avoidance motivations were the potential of the technology growing boring over time and the price of the product. It must be noted that the avoidance motivations were much lower ranked in importance than the approach motivations. The author thus concludes that with emphasizing the influencial approach motives and addressing the potential barriers may help to overcome the innovation related uncertainty. There was no statistically relevant relationship detected between the motives and the adopter categories. However, the early adopters were more prone to dismiss the potential avoidance motives and were more inclined towards hedonic motives. The author, thus, concludes that the more adventurous consumers with higher will to take risks, and people that are more inclined to eastetic and spiritual values, are more adoptive of innovative eco-technology. Also, it coincides with the theory that hedonic motives are an exception to approach/avoidance motivations as the innovation creates a paradox, where the hedonic motives can overrun the traditional approach motives. Hence, in the current survey the meditation and design are two

indicators offering ease of stress and eastetic appeal that early adopters are more responsive to than late adopters.

To answer the third research question, what is the intention of consumers to purchase indoor plant growing technology in the future, a time-line question was analysed. The results revealed that the adopter categories have a normal distribution curve within the survey sample and more than half-of the respondent stipulated their intention to purchase the products in the future. The intention was translated to adopter categories and for simplifying the results re-coded into two main groups of early adopters and late adopters. The author concludes that a both the normal distribution curve and the 56,6% of generilised early adopters is a good indication that the market is ready to adopt indoor plant-growing technology and the rate of which the diffusion happens will most likely not be too prolonged, as intention is the strongest indication of actual purchase behavior.

To answer to the main research question, what is the profile of the early adopters of indoor plant growing technology and the product characteristics determining the adoption, two main tasks were performed. The results from the first three research questions is combined with sociodemographic indicators to create the profile in Figure 12.

Profile value	Early adopters of indoor plant-growing technology
Age	26-44
Monthly Family Income	EUR 2500 - 4000
Previous experience	Not relevant.
Consumer Attitude	Positive attitude towards the potential benefit of the more automated and faster indoor plant growing technology
Values	Most important values are altruistic and biospheric values. Higher sensibility to hedonic values.
Green consumers	Not relevant.
Motives	The main approach motivation is sustainable living, decrease in waste, less concerns about

	the harmful substances in our purchased greens and beneficial learning effects. The main avoidance motivation is decrease in resting quality and complexity of the technology.
Price sensibility	Between EUR 0-250.

Figure 12. Early adopters' profile. Source: compiled by the author.

The product characteristics most influencial in the purchasing decision of indoor plant-growing technology is low maintenance cost and possibility to grow ecological greens, whereas the other characterististic in the declining importance are: affordable price for technology, fast growing greens, automated growing system, appealing design solution, cost saving from buying greens and, branding and social status of the technology. The author concludes that price related characteristics have an important role in purchasing innovative products as the consumer is uncertain what benefits they will get for their purchase. Also, the hedonic characteristics of design, branding and social status are the least relevant and author predicts that one of reasons for this result is generic nature of the survey and lack of visual materials for the product. The functionality and ease of use are the main determinants of fruitful diffusion of innovation, but the survey here indicates that, if the sample is presented with abstract questions, they would firstly concider the cost of the technology and what they would be willing to spend. This implicates that the consumers are not fully confident about the usefulness or the functionality of the technology and the diffusion would depend largely on the determined price.

CONCLUSION

The aim of the thesis is to profile the consumers likely to adopt eco-innovative technology and to uncover which factors determine the consumers' decision to purchase eco-innovative technology and through this contribute to the understanding of consumer choices for unconventional technology. To fulfill the research question to current thesis outlined the theoretical framework related with innovation adopter categories, consumer attitudes, values, motivations and intentions. A multi-national consumer survey comprising of 27 questions was conducted and it received 57 targeted answers.

The profile of the early adopters of the narrowed research objective of indoor plant-growing technology are in the age group of 26-44 years, with a monthly family income of EUR 2500-4000 and with positive attitude towards the potential benefit of the more automated and faster indoor plant growing technology. Their main approach motivation is sustainable living, decrease in waste, less concerns about the harmful substances in our purchased greens and beneficial learning effects, whereas the main avoidance motivation is decrease in resting quality and complexity of the technology. The average amount of money early adopters are willing to spend on the technology ranges between EUR 0-250. Previous experience in indoor plant growing and green consumerism are not significant indicators of early adoption.

The main product related factors determining the purchasing decision are low maintenance cost and possibility to grow ecological greens, whereas the other characterististic in the declining importance are: affordable price for technology, fast growing greens, automated growing system, appealing design solution, cost saving from buying greens and branding & social status of the technology. The cost related indicators ranked higher in importance than expected and this gives an indication that the consumer is not fully convinced about the useful functionality of the indicated technology.

In addition, the survey revealed several correlation between variables and the only positive correlation that the survey indicated was between consumer attitudes and purchasing intention:

1. A negative correlation between consumer values and adopter categories indicating that the early adopters do not significantly differenciate from late adopters by the their value base. The early adopters where more inclined to wealth and respect for earth, whereas the late adopters had a higher score on authority. The author concludes that the innovators are less conservative and more targeted to creating value.

2. A negative correlation between early adopters of eco-innovative technology and green consumerism indicating that pro-environmental curtailment behaviour is not related with pro-enviromental behaviour entiling high involvement, such as purchasing an eco-innovative product.

3. A positive correlation between positive attitudes to technology benefits and purchasing intention indicating that early adopters believed more strongly in the benefits of the technology.

4. A negative correlation between purchasing motives and the adopter categories indicating that the early adopters perceive the approch and avoidance motives the same as late adopters. However, it can be concluded that the early adopters were more prone to dismiss the potential avoidance motives and were more inclined towards hedonic motives.

5. A negative correlation between the importance of the product features and the adopter categories indicating that early adopter and late adopters do not have significantly different views on the importance of the product features.

Based on the above results and the limitations of the sample size, the author proposes that further research with larger sample and single determinants of values and motives is conducted to assertain the correlation with early adopters of eco-innovative technology. Also, the hypothesis of pro-environmental curtailment behaviour being in correlation with high envolement pro-environmental behaviour is advisable to research with a different reasearch objective. The results

could be different depending on how the technology is perceived by respondents on the pro-environmental scale and a pre-testing of their perception is suggested.

KOKKUVÕTE

TARBIJA OTSUSTUSLIKUD TEGURID ÖKO-INNOVAATILISE TEHNOLOOGIA OMAKSVÕTUL

Sandra Metsamärt

Magistritöö eesmärgiks on koostada öko-innovaatilise tehnoloogia tarbija profiil ning teha kindlaks, millised tegurid mõjutavad tarbija ostuotsust. Laiem eesmärk on panustada rohelise tehnoloogia ostuotsuste uurimisse, mis on senimaani vähe uuritud valdkond. Selleks, et magistriöö eesmärki täita on esmalt välja toodud uurimisküsimuste aluseks olev teoreetiline raamistik seoses tarbijate innovatsiooni omaksvõtu kategooriatega, tarbija hoiakute, väärtuste, motivatsiooni ja käitumusliku kavatsusega. Teoreetilise raamistiku baasil on koostatud 27-st küsimusest koosnev tarbijaküsitlus, millele vastas 57 rahvusvahelist tarbijat. Uuringuküsimuste kitsendatud objektiks oli toatingimustes kasutatav taimekasvatussüsteem ning tarbijad jagati nende käitumusliku kavatsuse ajaraami järgi kahe alamkategooriasse: varajased omaksvõtjad ja hilised omaksvõtjad.

Taimekasvatusüsteemi varajaste omaksvõtjate profiil oli uuringu kohaselt alljärgnev: vanus: 26-44 aastat; kuine perekonna sissetulek: EUR 2500 – 4000; positiivne hoiak automatiseeritud taimekasvatussüsteemi kasutegurisse; peamine lähenemismotiiv oli jätkusuutlikus, jäätmete vähendamine, väiksem mure toidus sisalduvate kahjulike ainete osas ja kasulik õppimisefekt; peamine vältimismotiiv tehnoloogia ostmisel oli puhkekvaliteedi vähenemine ja toote keerukus. Keskmine toote hinnatundlikus oli tarbijatel vahemikus EUR 0-250 ning olulisi erinevusi omaksvõtjate kategooriate vahel ei esinenud. Uuringu kohaselt ei mõjutanud varasem sisetingimustes taimede kasvatamise kogemus ega roheline tarbimine öko-innovaatilise tehnoloogia varast omaksvõttu.

Peamised tootespetsiifilised tegurid, mis mõjutasid tarbija ostukavatsust taimekasvatusüsteemi puhul olid madalad ülalpidamiskulud ja võimalus kasvatada ökoloogilisi taimi. Ülejäänud tegurid kahanevas tähtsuse järjekorras on järgnevad: toote hind, kiire taimede kasvutsükkel, automatiseeritud kasvusüsteem, toote disain, kokkuhoid aedviljade ostmisest ning toote bränding ja sotsiaalne staatus. Toote kuludega seotud tegurid olid uuringu tulemuste põhjal olulisemad kui

esialgselt prognoositud ning see annab indikatsiooni, et tarbijad ei ole taimekasvatussüsteemide funktsionaalsuses ning selle kasuteguris lõplikult veendunud.

Uuringutulemuste põhjal võrreldi erinevaid muutujaid ning nendevahelisi seoseid ning tulemused on väljatoodud allpool:

1. Negatiivne seos tarbija väärtuste ja innovatsiooni omaksvõtu kategooriate vahel, mis annab aluse järeldada, et tehnoloogia varajaste -ja hiliste omaksvõtjate väärtusbaas on samane või sarnane. Omaksvõtjate kategooriate võrdluses selgus, et varajased omaksvõtjad hindavad kõrgemalt rikkust ja austust Maa vastu, samal ajal kui hilised omaksvõtjad hindavad kõrgemalt autoritaarsust. Käesolevast võib järeldada, et innovaatorid on vähem alalhoidlikud ning rohkem väärtuse loomisele suunatud.

2. Negatiivne seos tehnoloogia varjaste omaksvõtjate ja rohelise tarbimise vahel, millest võib järeldada, et tegevuste vältimisel baseeruv roheline käitumine (prügi sorteerimine, autokasutuse piiramine) ja aktiivset sisenpanust eeldav roheline käitumine (toote ostmine) ei ole omavahel seotud.

3. Positiivne seos tarbijate hoiakute ja käitumusliku kavatsuse vahel. Varajased omaksvõtjad näitasid selgelt üles positiivsemat hoiakut toote kasuteguri osas.

4. Negatiivne seos ostumotiivide ja omaksvõtjate kategooriate vahel, mis indikeerib seda, et varajased -ja hilised omaksvõtjad tunnetasid potentsiaalseid lähenemis- ja vältimismotiive samaselt. Seejuures saab välja tuua, et varajased omaksvõtjad hindasid vältimismotiive vähem oluliseks ning olid positiivsemalt meelestatud hedooniliste ostumotiivide osas. Käesolevast saab järeldada, et kuigi funktionaalsus on toote puhul kõige olulisem, siis innovaatorid hindavad kõrgelt ka muid väärtusi nagu stressi vähendamine ja meditatsioon.

5. Negatiivne seos tootespetsiifiliste omaduste ja omaksvõtjate kategooria vahel, mis annab indikatsiooni, et varajastel –ja hilistel omaksvõtjatel ei ole oluliselt erinevaid vaateid tooteomaduste olulisuse osas.

Ülaltoodud järelduste ja uuringu limitatsioone arvesse võttes teeb autor ettepaneku täiendavate uuringute läbiviimiseks, kuhu oleks kaasatud suurem tarbijabaas ning hinnatud konsentreeritumalt ehk ühevaateliselt tarbijate väärtusi ja motiive selleks, et saavutada suurema haardega teaduslik alus öko-innovaatiliste tehnoloogia varajaste omaksvõtjate profileerimiseks. Samuti, soovitab autor testida veelkordselt tegevuste vältimisel baseeruva rohelise käitumise ja

aktiivset sisenpanust eeldava rohelise käitumise omavahelist seost kasutades uuringuobjektina erineva funktsionaalsusega toodet. Seos võib olla tugevalt mõjutatud sellest, kuidas tarbijad uuringuobjektiks olevat toodet rohelisuse skaalal hindavad ning selle hinnangu eeltestmine on soovitatav.

LIST OF REFERENCES

Adub, H., El-Bassiouny.N. Roosen.J. (2018) Consumers' salient beliefs about green solar innovations: An elicitation study of Egyptian consumers. *Social Business*, Vol. 8, No. 2, 167-185.

Ajzen, I. The theory of planned behavior. (1991). *Organizational Behaviour and Human Decision Processes*, No. 50, 179-211.

Arnold, M.J., Reynolds, K.E. (2003). Hedonic shopping motivations. *Journal of Retailing*. No. 79, 77–95.

Arundel, A, & Kemp, R. Measuring eco-innovation. Working Paper Series. Unu-Merit, 2009-017.

Barbarossa, C., De Pelsmacker, P. (2016) Positive and Negative Antecedents of Purchasing Eco-friendly Products. *Journal of Business Ethics*. Vol. 134, Issue: 2, 229 – 247.

Carver, C.S., Sutton, S.K., & Scheier, M.F. (2000). Action, emotion, and personality: Emerging conceptual integration. *Personality and Social Psychology Bulletin*, No. 2000/26, 741-751.

Connolly, J., Prothero, A. Sustainable consumption: consumption, consumers and the commodity discourse. *Consumption Markets & Culture*, No. 6(4), 275–291.

Cowart, K.O., Fox, G.L., Wilson, A.E. (2008). A Structural Look at Consumer Innovativeness and Self Congruence in Product Purchases. *Psychology & Marketing*, No. 25(12), 1113-1115.

Davies, F.D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, No. 13(3), 319 – 340.

Eagly, A. H., & Chaiken, S. (1993*). The psychology of attitudes*. Orlando, FL, US: Harcourt Brace Jovanovich College Publishers.

East, R, Singh, J, Wright, M, Vanhuele, M. *Consumer Behaviour*. *Applications in Marketing*. *3rd Edition*. SAGE, 2017.

Frewer, L. (2003) Societal issues and public attitudes towards genetically modified foods. *Trends in Food Science & Technology,* No. 14, 319–332.

Follows, S.B., Jobber, D. (2000). Environmentally responsible purchase behaviour: a test of a consumer model. *European Journal of Marketing*, Vol. 34 Issue: 5/6, 723-746.

Hague, P, Harrison, M, Cupman, J, Truman, O. *Market Research in Practice. An introduction to gaining greater marketing insight. 3rd Edition*. KoganPage, 2016.

Jansson, J., Marell, A., Nordlund, A. (2011) Exploring consumer adoption of a high involvement eco-innovation using value-belief-norm theory. *Journal of Consumer Behaviour*, No. 10, 51–60.

Jansson, J., Marell, A., Nordlund, A. (2010). Green consumer behavior: determinants of curtailment and eco-innovation adoption, *Journal of Consumer Marketing*, Vol. 27 Issue: 4, 358-370.

Kaiser, F.G., Hübner, G., Bogner, F.X. (2005). Contrasting the Theory of Planned Behavior with the Value-Belief-Norm model in explaining conservation behavior. *Journal of Applied Social Psychology*, No. 35, 10, 2150-2170.

Karaarslan, M. H., Sükrü Akdogan, M. (2015) Consumer Innovativeness: A Market Segmentation. *International Journal of Business and Social Science*. Vol. 6, No. 8.

Koschate-Fischer, N., Hoyer, W.D., Stokburger-Sauer, N.E., Engling, J. (2018) Do Life Events Always Lead to Change in Purchase? The Mediating Role of Change in Consumer Innovativeness, the Variety Seeking Tendency, and Price Consciousness. *Journal of the Academy of Marketing Science*. No. 46 (3), 516–536.

Kulviwat, S., Bruner II, G.C., Kumar, A., Nasco, S.A., Clark, T. (2007) Toward a Unified Theory of Consumer Acceptance Technology. *Psychology & Marketing*, Vol. 24(12): 1059–1084.

Loudon, D.L., A.J.Della Bitta, A.J. (1993) *Consumer Behaviour: Concepts and Applications*. Fourth Edition. McGRAW-HILL, INC.

Rogers, E.M. (2010) Diffusion of Innovations. Fourth Edition. Free Press, New York.

Rogers, E.M. (2003) Diffusion of Innovations. Fifth Edition. Free Press, New York.

Sethna, Z., J.Blythe, J. (2016) Consumer Behaviour. 3rd Edition. SAGE.

Shin, Y.H., Im, J., Jung, S.E., Severt, K. (2019) Motivations behind Consumers' Organic Menu Choices: The Role of Environmental Concern, Social Value, and Health Consciousness, *Journal of Quality Assurance in Hospitality & Tourism*, No. 20:1, 107-122.

Stern, P.C. (2000). Toward a coherent theory of environmentally significant behavior. Journal of Social Issues, No. 56 (3), 407–424.

Stern, P.C., Dietz, T., Abel, T., Guagnano, A., Kalof, A. (1999) Value-Belief-Norm Theory of Support for Social Movements: The Case of Environmentalism. *Human Ecology Review*, Vol. 6, No. 2.

Ronteltap, A, J.C.M., van Trijp, R.J., Renes L.J. Frewer. (2007) Consumer acceptance of technology-based food innovations: Lessons for the future of nutrigenomics. *Appetite*, No. 49, 1–17.

Vlek, C, Steg, L. (2007) Human Behavior and Environmental Sustainability: Problems, Driving Forces, and Research Topics. *Journal of Social Issues*, Vol. 63, No. 1, 2007, 1—19.

Ägren, A., Jonsson, B. (2019) Consumer attitudes, buying intentions and consumption expenditures: An analysis of the Swedish household survey data. University of Uppsala. Available:
https://www.konj.se/download/18.2fd2f1a815162e6a74e31daf/1449137772142/NO_6.pdf , 31 March 2019.

Zoll, F., Specht, K., Opitz, I., Siebert, R., Piorr, A., Zasada, I. (2018) Individual choice or collective action? Exploring consumer motives for participating in the alternative food networks. *International Journal of Consumer Studies*. Vol. 42 Issue 1, 101-110.

APPENDICES

Appendix 1. Questionnaire (Scales & Percentages)

Section I. Background knowledge

Question	Measurement scales	Scale type
1. In your opinion how is most of green edibles grown globally?	a) Open field (37%) b) Greenhouses with soil (26%) c) Greenhouses with high technology solutions (37%)	A nominal scale labeling the variables with mutual exclusivity.
2. Do you think growing plants in technological solutions is safe?	a) Yes (53%) b) No (17%) c) Don't know (30%)	

Section II. Previous experience

3. Do you grow edible plants indoors?	a) Yes (40%) b) No (60%)	Dichotomous nominal scale.
4. If you answered no the previous question, please indicate the reason.	a) I don't have time (24%) b) I don't enjoy taking care of plants (24%) c) I find it easier to purchase the greens (24%) d) Other (please specify) (27%)	A nominal scale labeling the variables with mutual exclusivity & open field option.
5. What methods do you use for indoor growing (both edible and decorative plants)?	a) Traditional soil (73%) b) Technologically modified soil (6%) c) Watercultures (4%) d) Other (please specify) (17%)	

6. What kind of plants do you grow indoors (multiple answers)?	a) Herbs (49%) b) Lettuces (15%) c) Fruit & vegetable plants (e.g. orange, tomatoes) (15%) d) Decorative green plants (55%) e) Decorative blossoming plants (39%) f) Air purifying plants (19%) g) Low maintenance plants (e.g. cactus) (40%) h) I have no plants at home (11%)	A nominal scale labeling the variables with mutual exclusivity.
7. Where do you have plants at home (multiple answers)?	a) Kitchen (60%) b) Bedroom (32%) c) Living room (76%) d) Bathroom (6%) e) Hallways (9%) f) Dining room (17%) g) I have no plants at home (13%) h) Other (please specify) (0%)	A nominal scale labeling the variables with mutual exclusivity & open field option.
8. Why do you grow plants indoors (multiple answers)?	a) Decoration (81%) b) Consumption (40%) c) Air purity (27%) d) Lifestyle (31%) e) I have no plants at home (11%) f) Other (please specify) (0%)	
9. How much money do you spend average on monthly level on greens (tomatoes,	a) EUR 0-25 (30%) b) EUR 26-50 (26%) c) EUR 51-100 (22%)	A nominal scale labeling the variables with mutual exclusivity.

lettuce, herbs, cucumbers, bell peppers) excl. fruits?	d) EUR 101-150 (15%) e)More than EUR 150 (7%)	

Section III. Consumer Attitudes

9. Please indicate which of the following eco-friendly behaviours you practice and reasoning for the behaviour.	a) I buy ecologically grown greens
	   1. 21%
	   2. 21%
	   3. 34%
	   4. 0%
	   5. 0%
	 b) I recycle garbage at home
	   1. 13%
	   2. 8%
	   3. 8%
	   4. 49%
	   5. 0%
	 c) I avoid wasting water (e.g. short showers, using rain water for plants)
	   1. 19%
	   2. 8%
	   3. 9%
	   4. 41%
	   5. 0%
	 d) I avoid using my car, if possible
	   1. 21%
	   2. 15%
	   3. 19%
	   4. 23%
	   5. 0%
		A five-point Likert scale:
		 1. No
		 2. Yes, because I have to
		 3. Yes, because it brings me benefits (saves money, health benefits, knowledge,etc)
		 4. Yes, because its good for the enviroment
		 5. Yes, because everybody does it

	e) I have taken part in pro-environment actions (e.g. community clean-up events, rallies, etc) 1. 36% 2. 4% 3. 6% 4. 32% 5. 0% f) I monitor my energy consumption (energy saving lamps, well insulated home, green energy) 1. 30% 2. 6% 3. 23% 4. 19% 5. 0% g) I avoid unnecessary packaging when shopping 1. 0% 2. 0% 3. 24% 4. 76% 5. 0%	A five-point Likert scale: 1. No 2. Yes, because I have to 3. Yes, because it brings me benefits (saves money, health benefits, knowledge,etc) 4. Yes, because its good for the enviroment 5. Yes, because everybody does it
10. Please indicate how you would prefer to be connected to the nature in your living arrangement:	a) I prefer a great view to the outdoors (26%) b) I prefer nature outdoors (43%) c) I prefer growing greens indoors (4%) d) I prefer growing greens	A nominal scale labeling the variables with mutual exclusivity.

	outdoors (13%)	A nominal scale labeling the variables with mutual exclusivity.
11. Do you trust the fresh fruits and vegetables you buy from supermarkets?	a) Yes (30%) b) No (32%) c) Don't know (15%)	

12. Please rate the below values by their personal importance.	a) Authority 1. 6% 2. 26% 3. 49% 4. 11% 5. 8% b) Wealth 1. 2% 2. 9% 3. 62% 4. 23% 5. 4% c) Social power 1. 0% 2. 30% 3. 45% 4. 17% 5. 8% d) Influence 1. 0% 2. 15% 3. 51% 4. 26% 5. 8% e) Social justice 1. 2% 2. 9%	A five-point Likert scale: 1. Opposed to the value 2. Not important 3. Important 4. Very important 5. Don't know

	3. 42% 4. 43% 5. 4% f) Equality 1. 2% 2. 6% 3. 30% 4. 62% 5. 0% g) A world in peace 1. 0% 2. 4% 3. 13% 4. 81% 5. 2% h) Helpfulness 1. 0% 2. 2% 3. 32% 4. 64% 5. 2% i) Preventing pollution 1. 0% 2. 0% 3. 28% 4. 68% 5. 4% j) Protecting enviroment 1. 0% 2. 0% 3. 26% 4. 70% 5. 4%	A five-point Likert scale: 1. Opposed to the value 2. Not important 3. Important 4. Very important 5. Don't know

	k) Respecting the earth 1. 0% 2. 0% 3. 26% 4. 70% 5. 4% l) Unity with nature 1. 0% 2. 2% 3. 49% 4. 42% 5. 7%	A five-point Likert scale: 1. Opposed to the value 2. Not important 3. Important 4. Very important 5. Don't know
13. Do you think you could benefit from a technology allowing to grow edible plants faster and more automatic at your home?	a) Yes, definitely (38%) b) Yes, probably (30%) c) Rather, no (26%) d) Definitely, no (6%)	A nominal scale labeling the variables with mutual exclusivity.
14. In ideal world what kind of edible plants would you like to grow indoors (multiple answers)?	a) Lettuces (47%) b) Strawberries (42%) c) Tomatoes (47%) d) Herbs (basil, sage, oregano, etc) (77%) e) Bok Choy (13%) f) Green beans (17%) g) Spinaches (42%) h) Chilly (34%) i) Bell peppers (34%) j) I prefer not to grow edible plants indoors (11%) k) Other (please specify) (0%)	A nominal scale labeling the variables with mutual exclusivity & open field option.

15. If you were to choose indoor technology for growing your greens please indicate the importance of the features.	a) Ecological greens 1. 30% 2. 26% 3. 19% 4. 0% 5. 4% b) Fast growing greens 1. 19% 2. 28% 3. 17% 4. 8% 5. 6% c) Automated growing system - little effort 1. 21% 2. 30% 3. 19% 4. 6% 5. 2% d) Appealing design solution 1. 17% 2. 25% 3. 23% 4. 11% 5. 2% e) Branding & social status of the technology 1. 0% 2. 9% 3. 17% 4. 47% 5. 4% f) Cost saving from buying	A five-point Likert scale: 1. Very important 2. Important 3. Slightly important 4. Not important 5. Don't know

	greens	A five-point Likert scale:
	1. 23%	1. Very important
	2. 19%	2. Important
	3. 23%	3. Slightly important
	4. 11%	4. Not important
	5. 2%	5. Don't know
	g) Affordable price for technology	
	1. 30%	
	2. 34%	
	3. 11%	
	4. 0%	
	5. 2%	
	h) Low maintenance cost	
	1. 30%	
	2. 43%	
	3. 2%	
	4. 0%	
	5. 2%	

Section V. Consumer Motives

16. PART I. Please indicate your agreement with phrases "Choosing an indoor technology to grow my edible greens will/might"	a) help me live more sustainably	A five-point Likert scale:
	1. 47%	1. Agree
	2. 32%	2. Rather agree
	3. 11%	3. Rather don't agree
	4. 2%	4. Don't agree
	5. 8%	5. Don't know
	b) increase utility consumption (electricity)	
	1. 23%	
	2. 39%	

	3. 21%	A five-point Likert scale:
	4. 6%	1. Agree
	6. 11%	2. Rather agree
	c) decrease waste (supply chain waste, packaging)	3. Rather don't agree
	1. 55%	4. Don't agree
	2. 32%	5. Don't know
	3. 6%	
	4. 3%	
	5. 4%	
	d) make me look innovative & add to my adventurous persona	
	1. 19%	
	2. 21%	
	3. 23%	
	4. 23%	
	5. 14%	
	e) make my concerns about environment visible to my peer groups	
	1. 11%	
	2. 28%	
	3. 20,8%	
	4. 22,6%	
	5. 13,2%	
	f) be unconventional & bring along social ridicule	
	1. 8%	
	2. 17%	
	3. 22%	
	4. 32%	
	5. 21%	

	g) have beneficial learning-effects 1. 47% 2. 30% 3. 11% 4. 4% 5. 8% h) bring along cost-saving from purchasing greens 1. 34% 2. 34% 3. 15% 4. 4% 5. 13%	A five-point Likert scale: 1. Agree 2. Rather agree 3. Rather don't agree 4. Don't agree 5. Don't know

16. PART II. Please indicate your agreement with phrases "Choosing an indoor technology to grow my edible greens will/might..."	a) make me less concerned the air quality in my living space. 1. 22% 2. 36% 3. 18% 4. 9% 5. 15% b) make me less concerned about the harmful substances in my greens 1. 42% 2. 36% 3. 9% 4. 4% 5. 9% c) decrease resting quality (potential noise and lightning) 1. 13%	A five-point Likert scale: 1. Agree 2. Rather agree 3. Rather don't agree 4. Don't agree 5. Don't know

	2. 23% 3. 19% 4. 9% 5. 36% d) help keep up with new technology 1. 4% 2. 23% 3. 36% 4. 18% 5. 19% e) be complicated to use 1. 9% 2. 22% 3. 28% 4. 11% 5. 30% f) be expensive 1. 13% 2. 25% 3. 21% 4. 9% 5. 32% g) get boring after a while 1. 4% 2. 34% 3. 30% 4. 21% 5. 11% h) provide meditative effect from nurturing greens 1. 17% 2. 40%	A five-point Likert scale: 1. Agree 2. Rather agree 3. Rather don't agree 4. Don't agree 5. Don't know

	3. 11%	A five-point Likert scale:
	4. 13%	1. Agree
	5. 19%	2. Rather agree
	i) provide aesthetic design/decoration element for interior	3. Rather don't agree
	1. 28%	4. Don't agree
	2. 42%	5. Don't know
	3. 17%	
	4. 4%	
	5. 9%	
	j) greenify my indoors and help to connect to nature	
	1. 40%	
	2. 38%	
	3. 10%	
	4. 2%	
	5. 10%	

Section VI. Intentions

17. Please indicate your intentions for purchasing an indoor plant growing technology in the future:	a) would buy as soon as I find an appealing technology (17%)	A nominal scale labeling the variables with mutual exclusivity.
	b) would buy an appealing technology after user reviews are available (39,6%)	
	c) would buy much later if the technology becomes widely spread and socially accepted (34%)	
	d) would not buy at all (9,4%	

18. If you chose the last answer to previous question, please indicate the reasoning behind it:	a) I find the technology concept unnecessary (14%) b) I find the technology concept too complex/unconventional (10%) c) Other (please specify) (23%)	A nominal scale labeling the variables with mutual exclusivity & open field option.
19. Please indicate the price range you would be willing to concider spending for innovative indoor plant growing technology:	a) Less than EUR 100 (45%) b) EUR 101 – 250 (36%) c) EUR 251 – 500 (11%) d) EUR 501 – 1000 (4%) e) EUR 1001 – 1500 (0%) f) More than EUR 1500 (2%) g) Would not buy at all (2%)	A nominal scale labeling the variables with mutual exclusivity.

Section VII. Sociodemographic data

20. Your age (in years):	a) 18-25 (9%) b) 26-44 (72%) c) 45 – 65 (15%) d) Above 65 (4%)	
21. Sex:	a) Female (62%) b) Male (38%)	A nominal scale labeling the variables with mutual exclusivity.
22. Marrital status:	a) Married (39%) b) Long-term relationship (35%) c) Single (27%)	
23. Monthly family income (EUR):	a) Below EUR 1000 (6%) b) EUR 1001 – 2500 (29%) c) EUR 2501 – 4000 (37%) d) More than EUR 4000 (28%)	

24. Occupation:	a) Student (2%) b) Housewife / Maternity Leave (6%) c) Employed in service sphere (8%) d) Employed in business sphere (36%) e) Business owner (17%) f) Freelancer (9%) g) Professional (17%) h) Unemployed (2%) i) Retired (4%)	A nominal scale labeling the variables with mutual exclusivity.
25. Please indicate your living status:	a) Flat (81%) b) Private house (19%)	
26. Please indicate your living environment:	a) City centre (59%) b) Suburb (30%) c) Country-side (8%)	
27. Please indicate your nationality:	Estonian 26% Russian 15,% Maltese 8% American 6% Finnish 6% Portuguese 6% Australian 4% German 4% Greek 4% Latvian 4% Norwegian 4% Canadian 2% Belgian 2% Brazilian 2% British 2%	Open question.

	Irish 2%	
	Swiss 2%	
	Ukrainian 2%	
	Other 2%	

Appendix 2. Descriptive results (Values)

Value	Early Adopter	Mean	Standard Deviation
Authority	NO	2.7143	.90238
	YES	2.4667	1.04166
Wealth	NO	2.85712	.85356
	YES	2.30667	.86834
Social Power	NO	2.6667	.85635
	YES	2.7333	1.04826
Influence	NO	3.0476	.58959
	YES	2.9000	1.18467
Social Justice	NO	3.2857	.64365
	YES	3.1333	1.13664
Equality	NO	3.4762	.60159
	YES	3.5333	.77608
A World in Peace	NO	3.7619	.53896
	YES	3.6667	.84418
Helpfulness	NO	3.5238	.51177
	YES	3.6000	.85501
Preventing Pollution	NO	3.6667	.48305
	YES	3.6000	.81368
Protecting Environment	NO	3.6190	.49761
	YES	3.6667	.80230
Respecting the earth	NO	3.5714	.50709
	YES	3.7000	.79438
Unity with Nature	NO	3.1429	.85356
	YES	3.1667	1.20583

Appendix 3. Descriptive results (Motives)

Value	Early Adopter	Mean	Standard Deviation
Help me live more sustainably	NO	2.4762	1.28915
	YES	3.5333	.86037
Increase utility consumption (electricity)	NO	2.4286	1.28730
	YES	2.6000	1.22051
Decrease waste (supply chain waste, packaging)	NO	3.0952	.83095
	YES	3.4000	1.22051
Make me look innovative & add to my adventurous persona	NO	1.8095	1.20909
	YES	2.2000	1.42393
Make my concerns about environment visible to my peer groups	NO	1.9524	.97346
	YES	1.9000	1.47040
Be unconventional & bring along social ridicule	NO	1.5714	1.16496
	YES	1.6000	1.30252
Have beneficial learning-effects	NO	2.8571	1.10841
	YES	3.2333	1.22287
Bring along cost-saving from purchasing greens	NO	2.5714	1.28730
	YES	2.7667	1.40647
Make me less concerned the air quality in my living space.	NO	2.1905	1.24976
	YES	2.5333	1.33218

Continues on next page.

Value	Early Adopter	Mean	Standard Deviation
Make me less concerned about the harmful substances in my greens	NO	2.6667	1.27802
	YES	3.2333	1.07265
Decrease resting quality (potential noise and lightning)	NO	1.5714	1.63007
	YES	1.7667	1.40647
Help keep up with new technology	NO	2.0476	1.43095
	YES	2.6000	1.37966
Be complicated to use	NO	1.7619	1.41084
	YES	1.7333	1.37966
Be expensive	NO	2.0476	1.49921
	YES	1.6000	1.42877
Get boring after a while	NO	2.4286	.74642
	YES	1.7000	1.14921
Provide meditative effect from nurturing greens	NO	2.0000	1.41421
	YES	2.4000	1.32873
Provide aesthetic design/decoration element for interior	NO	2.5714	1.02817
	YES	2.9333	1.20153
Greenify my indoors and help to connect to nature	NO	2.6190	1.16087
	YES	3.1000	1.34805