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Kamu Çalışanlarının Yeşil Satın Alma Tutumları Üzerine Bir Araştırma

A Study on Green Purchasing Attitudes of Public Employees: Sample of Düzce Province

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Öz

Günümüz dünyasında, tüketicilerin bilinç seviyesinin ve duyarlılığının artması ile insan sağlığı ve çevreye daha duyarlı ürünlere ve hizmetlere ilgi artmış ve rekabet ortamında yeşil ürünlerin, hem pazarlama rekabet stratejisi gereği pazara sunulması hem de müşterilerce satın alınması kaçınılmaz hale gelmiştir. Bu çalışmanın temel amacı tüketici bakış açısı ile yeşil satın alma davranışının hangi tutumlar benimsenerek ne yönde gerçekleştirildiğinin tespit edilmesidir. Araştırmaya 2019 yılında Düzce ilinde görev yapmakta olan 492 kamu personeli anket yöntemi ile katılım göstermiştir. Araştırmada uyarlanan ''yeşil satın alma tutum ve duyarlılık'' ölçeği kullanılmıştır. Tüketicilerin yeşil satın alma davranışları ile demografik özellikleri arasında istatistiki olarak anlamlı farklılıklar olup olmadığını tespit etmek için Mann-Whitney U testi ve Kruskal Wallis testleri kullanılmıştır. Tüketicilerin satın alma sırasında alınan ürünün ambalaj veya etiketi üzerindeki yazıları okumaları ile demografik özellikleri arasındaki ilişkinin tespiti için ikili lojistik regresyon analizi gerçekleştirilmiştir. Araştırmada elde edilen sonuçlar doğrultusunda, çevreye yönelik genel tutumların, tüketicilerin yaşları, medeni durumu, gelir düzeyi ve hizmet süresine göre farklılaştığı tespit edilmiştir. Fakat yeşil ürünler satın almaya karşı duyarlılık ile demografik değişkenler arasında bir farklılık tespit edilememiştir. Yeşil ürünler satın almada ekonomik faktörler ile katılımcıların cinsiyeti, yaşları, medeni hali, gelir durumu ve hizmet süresi açısından farklılaşırken, çevreye karşı davranış açısından sadece medeni durum ve eğitim durumu ile anlamlı bir farklılık söz konusudur. Çevreye karşı sorumluluk açısından ise cinsiyet, medeni hal ve hizmet süresi açısından anlamlı farklılıklar tespit edilmiştir. Ayrıca ürünün ambalajı veya etiketi üzerindeki yazıların okunması ile katılımcıların sadece eğitim durumu arasında anlamlı bir farklılık söz konusudur. Çalışmada elde edilen bulgular kamu çalışanlarının yeşil satın alma davranışı ve tutumlarının nasıl şekillendiğinin anlaşılması bakımından literatüre katkı sağlayacaktır.

Anahtar Kelimeler: Yeşil Satın Alma, Yeşil Ürün, Yeşil Pazarlama, Çevre, Tüketici Davranışları, Kamu Çalışanları

A Study on Green Purchasing Attitudes of Public Employees: Sample of Düzce Province

Abstract

In today's world, with the increasing awareness and sensitivity of consumers, interest in products and services that are more sensitive to human health and the environment has increased and both offering green

products to the market in accordance with marketing competitive strategies and purchasing by customers. The main purpose of this study is to determine which attitudes are realized by adopting the consumer perspective and the green buying behavior. 492 public personnel working in Düzce province participated in the research with the survey method in 2019. "Green purchasing attitude and sensitivity" scale, which was adapted in the research, was used. Mann-Whitney U test and Kruskal Wallis tests were used to determine whether there were statistically significant differences between consumers' green purchasing behavior and demographic characteristics. Binary logistic regression analysis was carried out to determine the relationship between the consumers' reading on the package or label of the product purchased at the time of purchase and their demographic characteristics. In line with the results obtained in the study, it was determined that general attitudes towards the environment differ according to the age, marital status, income level and term of office of the consumers. However, no difference was found between sensitivity to purchasing green products and demographic variables. While economic factors in purchasing green products differ in terms of gender, age, marital status, income and term of office of the participants, there is a significant difference only with marital status and educational status in terms of behavior towards environment. In terms of environmental responsibility, significant differences were determined in terms of gender, marital status and term of office. Also, there is only meaningful difference between the reading of the inscriptions on the packaging or label of the product and educational status. The findings of the study will contribute to the literature in terms of understanding how the green purchasing behavior and attitudes of public employees are shaped.

Keywords: Green Purchasing, Green Products, Green Marketing, Environment, Consumer Behaviors, Public Employees

Introduction

The world has been in a new era and the advance in technology we have been witnessing recently and the rapid industrialization that accompanies it are destroying the environment in the same speed. As time progressed, people's expectations changed. The change and development in technology, the competition it brought with it, the interaction of people, increased consumption. This increase has also affected the environment negatively. Because the environment is a place where all living things interact with each other, throughout their lives, people continue all their activities such as social and cultural, economic, political, biological, etc. In this case, it is inevitable for the individual and the environment to interact. The unconscious behaviors that people attach to the environment are at the top of the causes of environmental problems (Kıyıcı, et al., 2005).

Over the last decade, consumer unconscious consumption of goods and services has increased immensely crosswise the world, bringing about to lessening of natural resources and strict damage to the environment (Chen & Chai, 2010). No attention has been given to the environment, and the nature has been subjected to unconscious behaviors as if its balance has been disturbed. Considering that natural resources are limited, this situation causes the environment to lose its value in the endless demands. The development policies of the countries, the endless desires of the people and the perception of endless and unbalanced consumption associated with this bring environmental problems with it (Yılmaz & Gültekin, 2012, p.122). In the current period, environmental problems have become risky and have reached a point threatening human life. Conscious consumers, who are aware of this, are more sensitive to environmental problems (Köse, Gül & 2014,p.272). Facing environmental problems and realizing the harm of these problems on the environment and people increased the anxiety of individuals and this led to the emergence of the concept of green consumption.

Green consumption approach should be a symbol of responsibility towards nature, people, societies and next generations after us, as it is a fashion trend or necessity (Torlak, 2009, p.111). Green consumption is to approach the environment with the consciousness of damaging the environment at minimum level and even act with the aim of being beneficial to the environment (Saba, 2019). Moreover, green purchasing objects to diminish undesirable environmental impacts in manufacturing process and transportation by using durable, recyclable and reusable materials (Chin et al,2020, p.291). Today's consumers are more conscious. While the consumer was only focused on purchasing and consumption, there are now conscious consumers, who are aware of scarce resources, closely follow the production processes, and are interested in post-consumption recycling. Conscious consumers have increased the responsibilities of managers and businesses, and have imposed some responsibilities on managers and businesses to take environmental measures at all stages from raw material to post-consumption (Çetinkaya & Özceylan, 2017,p.290). When considered from this point of view, it is possible to observe a greener society structure when the Green buying behavior is exhibited with the whole society and the future in mind. In next phases respectively, green purchasing behavior will be explained, in the line of hypothesis, green purchasing attitudes will be analyzed according to demographic factors of participants and with the perspective of findings discussions and recommendations will be made.

Green Product Purchasing Behavior

Green purchasing is a concept that comes with green products. Provision of products and services that are more sensitive to human health and the environment is essential. Before the 1990s, purchasing was a function that was considered only with financial factors. After the 1990s, it can be said

that professionals are now involved in purchasing and the effects of social, economic and environmental processes on purchasing were investigated and environmental factors were tried to be connected to purchasing (Chan, 2001,p.391).

Green consumers are defined as those who share with others about the product, take an environmentalist attitude while shopping, lack brand loyalty but do research on the product (Shrum et al., 1995,p.72). Green product purchasing behavior is conceptualized as sustainable consumption in the literature and it envisages acting in a way to decrease the consumption affecting the disappearance of natural resources. Purchasing behaviors that result in the consumer purchasing green products can be explained by a five-step decision mechanism. In this concept, which consists of five steps in the form of knowledge, understanding, attitude, action and rewards, all of the steps are necessary for the formation of this behavior, and the lack of one disrupts the entire functioning system of the decision mechanism. When the consumer is on the verge of purchasing, he first realizes the information gathering phase. Communication media such as print media, TV and internet are effective here. With personal initiatives, the mysterious information becomes the center of attention. The second step is the stage of understanding. At this stage, the evocative thoughts are effective. In the attitude stage, there is belief in moral behavior and positive feelings about the activity are adopted. The activity phase is the phase of the elimination of the problem and protectionism instinct is in question. The reward part includes moral satisfaction such as being environmentally friendly as well as being healthy. Thus, consumers want to believe that with their conscious purchasing preferences, they can provide protection of natural resources and reduce environmental damage (Aslan, 2007:169). Anyway, according to some studies (Gedik et al.,2014; Ling, 2013)on the subject, it is determined that people with environmental concerns are willing to buy green products but do not want to pay an extra fee for this, while in some studies the opposite results are achieved. Accordingly, people with high environmental awareness say that they can pay extra fee to buy environmentally friendly products. Therefore, there are conflicting results in the literature on the subject (Koçer & Delice, 2016, p.114). For example, although a study conducted in the United States reveals that 75% of consumers will prefer the products of companies that conduct environmental sensitivity and sustainability studies, green products show a niche market feature with a share of around 4% (Carvalho et al., 2016, p.207). In this case, it can be said that there is a weak relationship between some consumers' transformation of their behaviors and sensitivities on environmental issues into purchasing behavior. In these studies, it is determined that consumers with environmental concerns do not reflect these feelings to green product purchases and there is no increase in green product market shares and it is described as an unexpected situation. The reasons for this situation are the complexity of the green product, the insistence of green, the inability of green marketing to be fully understood

by consumers, the niche image of the market and the problem of trust in green marketing in general (Alkaya et al., 2016, p.123).

By reviewing the literature that include some studies related different point of view it will be easy to comprehend attitudes of consumers elaborately. Fraj & Eva (2007) stated that consumers who are conscious of nature prefer ecological products while carrying out their purchasing activities. The reason for these approaches is that ecological products are not only healthy but also aim to leave a more livable world to the next generations. Nickell, Rice & Tucker (1976), on the other hand, portray environmentally sensitive consumers as responsible individuals who believe that they have an individual share of environmental factors in environmental pollution, and therefore take a more sensitive attitude both for themselves and for future generations. Straughan & Roberts (1999) in their research found that demographic features had a great influence on the determination of green consumer behavior. In the study, it was determined that young people are more sensitive at the point of environmental sensitivity, women are more sensitive at the point of consumption behavior than men, and there is a positive relationship between environmental sensitivity and education level. In another study conducted within the framework of demographic factors, it was found that women are more sensitive than men in terms of environmental sensitivity and women are more environmentally friendly (Xiao & McCright, 2015). Ay & Ecevit (2010), in their study to determine the relationship between the behavior of environmentally sensitive consumers and their demographic and psychographic characteristics; concluded that psychographic variables, which are composed of sensitivity towards the environment, and sensitivity to social and political issues, are more dominant than demographic factors in the tendency to buy green. In the other research, Karaca (2013) conducted a study in Sivas in order to determine the relationship between the demographic characteristics of the individuals, their environmental sensitivity and their preferences to purchase green products. In his study, it was found that there were significant differences between age, gender, marital status, and education level, demographic factors consisting of occupational group, and their environmental sensitivity and preferences to purchase green products. Yılmaz and Arslan (2011), investigated the environmental sensitivities of the university students, their promises to protect the environment and environmentally friendly consumption behaviors according to the gender of the students, the place where their families live and the education level of the parents. As a result, they found that the gender of the students, the place where their families live, and especially the level of mother education affect environmental sensitivities and behaviors. However, Diamantopoulos et al. (2003) found that demographic variables were weak in determining the profile of green consumers in their studies with 1697 questionnaires with British consumers. According to the study; women are more concerned about the environment, but participate in environmental behavior, married couples are likely to engage in environmental behavior, there is a negative

correlation between age and environmental attitude, and there is a positive correlation between education and knowledge, attitude and behavior; however, in the findings, hypotheses indicating the relationship between high social class and environmental information, environmental quality and participation in green activities were not supported.

When the researches in the literature are compared, significant changes in consumer behavior are noticed. Unlike the old years, with the increase of conscious consumers, every stage of the products are examined and evaluated by the consumers. At this point, being able to make a difference by producers is of great importance because it is possible to observe a greener society structure when the green purchasing behavior is exhibited with the whole society and its future in mind. Park and Sohn (2012) stated that there are significant differences between consumers' attitudes and behaviors in green purchasing and that these differences are caused by their own environmental perceptions. As a result of the relevant literature review, it can be said that there are many comments and approaches on the differences between people's green purchasing attitudes and behaviors. While some researchers stated that the factors affecting green purchasing behavior consisted of environmental prejudices and sensitivities and demographic factors, some researchers claimed that green purchasing behavior could be affected by social factors.

Methods and Methodology

The main purpose of this study is to determine which attitudes are comprehended by adopting the consumer perspective and the green buying behavior. In this section, the hypotheses, data collection method will be explained. In this context, the purpose of this study is to determine whether there is a statistically significant relationship between the demographic characteristics of public personnel working in Düzce province, their sensitivity, attitudes, and economics in purchasing green products, and their attitudes and behavior towards their environment.

Hypotheses of Research

In line with the findings obtained as a result of the literature review conducted regarding the study, the hypotheses listed in Table 1 below have been reached. The research consists of 5 basic hypotheses and each title has hypotheses.

Table 1: Research Hypotheses

H_1 There is a difference between the demographic characteristics of the participants and their attitudes towards the environment.

H1a *There is a difference between gender of the participants and their attitudes towards the environment.*
H1b *There is a difference between ages of the participants and their attitudes towards the environment.*
H1c *There is a difference between marital status of the participants and their attitudes towards the environment.*
H1d *There is a difference between income status of the participants and their attitudes towards the environment.*
H1e *There is a difference between educational status of the participants and their attitudes towards the environment.*
H1f *There is a difference between terms of office of the participants and their attitudes towards the environment.*

H2: There is a difference between the demographic characteristics of the participants and their sensitivity to purchasing green products.

H2a *There is a difference between gender of the participants and their sensitivity to purchasing green products.*
H2b *There is a difference between ages of the participants and their sensitivity to purchasing green products.*
H2c *There is a difference between marital status of the participants and their sensitivity to purchasing green products.*
H2d *There is a difference between income status of the participants and their sensitivity to purchasing green products.*
H2e *There is a difference between educational status of the participants and their sensitivity to purchasing green products.*
H2f *There is a difference between terms of office of the participants and their sensitivity to purchasing green products.*

H3: There is a difference between the demographic characteristics of the participants and the economic factor in purchasing green products.

H3a *There is a difference between gender of the participants and the economic factor in purchasing green products.*
H3b *There is a difference between ages of the participants and the economic factor in purchasing green products.*
H3c *There is a difference between marital status of the participants and the economic factor in purchasing green products.*
H3d *There is a difference between income status of the participants and the economic factor in purchasing green products.*
H3e *There is a difference between educational status of the participants and the economic factor in purchasing green products.*
H3f *There is a difference between terms of office of the participants and the economic factor in purchasing green products.*

H4: There is a difference between the demographic characteristics of the participants and their behavior towards the environment.

H4a *There is a difference between gender of the participants and their behavior towards the environment.*
H4b *There is a difference between ages of the participants and their behavior towards the environment.*

H4c *There is a difference between marital status of the participants and their behavior s towards the environment.*

H4d *There is a difference between income status of the participants and their behavior towards the environment.*

H4e *There is a difference between educational status of the participants and their behavior towards the environment.*

H4f *There is a difference between terms of office of the participants and their behavior towards the environment.*

H5: There is a difference between the demographic characteristics of the participants and the factor of responsibility for purchasing green products

H5a *There is a difference between gender of the participants and the factor of responsibility for purchasing green products.*

H5b *There is a difference between ages of the participants and factor of responsibility for purchasing green products.*

H5c *There is a difference between marital status of the participants and factor of responsibility for purchasing green products.*

H5d *There is a difference between income status of the participants and factor of responsibility for purchasing green products.*

H5e *There is a difference between educational status of the participants and factor of responsibility for purchasing green products.*

H5f *There is a difference between terms of office of the participants and the factor of responsibility for purchasing green products.*

H6: Demographic characteristics of the participants effect the state whether participants reads inscriptions on package or label

Sampling and Data Collection Tool

The sample of the study consists of 492 public personnel selected from the city center of Düzce. The survey was distributed between 10.9.2019 and 10.12.2019 by simple random sampling method. In the study, it was determined that the sample size was 492 people in the Z = 95% confidence interval and e = 5% margin of error. The scale items of green product purchase attitudes and sensitiveness were, respectively, mainly derived from studies of Bagozzi et al. (2001), Gleim (2013) and Karaca (2013). After deriving, some items were added to modified scale by academicians who are expert in their field. In other words, some of the questions in the questionnaire have been compiled from the related literature and with the help of experts in the field. Some of them have been developed in the light of preliminary research on the subject. The first part is the part that measures the demographic characteristics of the participants. In the second part, the section that measures the green purchasing attitudes of the participants is shown with 5 factors: attitudes towards environment, behavior towards environment, economic factor in purchasing green products, responsibility in purchasing green product and sensitivity to purchasing green products.

Online survey method was chosen as a data collection tool. The questionnaire is devised as "five point Likert scale". For the purpose of conducting statistical analysis individual responses are conducted from 1

through 5 accordingly. Furthermore, questions asked to respondents regarding with green purchasing by using 5 point Likert scale.

Findings

Validity and Reliability Analysis

Alpha Coefficient (Cronbach's Alpha) was used to measure the reliability of the scale created from various sources. The Cronbach Alpha value of the study is 0.87. This result shows that the reliability of the survey is quite high.

In order to measure validity, structural validity, that is defined as the power of the measurement tool to represent the psychological feature that it aims to test (Köse, 2012), has been tested. Factor analysis is used quite frequently to reveal the construct validity. In factor analysis, Kaiser Meyer Olkin (KMO) is used to determine the adequacy of the sample. The KMO value obtained in the study was calculated as 0.89. KMO value over 0.80 is considered to be excellent. Barlett Sphericity analysis was conducted to determine whether the relationship between the expressions is sufficient. The test results were found to be significant (, 000).Table 2 shows KMO and Bartlett's test values.

Table 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,891
Bartlett's Test of Sphericity	Approx. Chi-Square	4327,233
	df	300
	Sig.	,000

In the factor analysis, 5 different factors were obtained as a result of the analysis of the basic components with varimax rotation. According to the analysis results seen in the table, there are 5 basic factors that explain the green purchasing attitudes of public employees in Düzce. The total variance explanation rate of these five factors is 55,328%. In this context, the named factors and the items included in these factors are as follows.

Table 3: Factor Analysis to determine attitudes of public employees in green purchase

Variables	**Factor Loads**	**Variance Exp.**	**α**
Factor I: attitudes towards the environment		16,714	,864
1. I am interested in the environmental impacts of the products I purchase.	,721		
2. I care about environmental issues	,668		
3. I see myself as an environmentalist.	,667		
4. I believe that by purchasing environmentally friendly products, I will protect the environment.	,639		
5. When buying products, I always prefer to buy products that	,683		

will less pollute the nature.			
6. If I have to choose between two products with the same content, I always prefer a product that will cause less harm to others and the environment.	,692		
7. I do not prefer products that may harm the environment.	,650		
8. I do not prefer the products of companies that do not respect the environment.	,594		
Factor II: behavior towards the environment		12,232	,802
22. People abuse the environment.	,724		
23. The balance of nature is sensitive and it can deteriorate fast	,670		
24. People's intervention in the environment often causes disasters.	,776		
25. People do not use natural resources consciously.	,701		
26. If individuals continue their consumption habits, we may face serious environmental problems in the future.	,718		
27. People need to understand nature and determine their actions accordingly.	,482		
Factor III: economic factor in purchasing green products		10,636	,803
17. When I consume products, I try to be economical because I am aware that they are obtained from scarce sources.	,696		
18. I work hard to reduce the amount of electricity I consume.	,757		
19. I prefer that the bulbs I use at home are those that consume less energy.	,681		
20. I prefer my home electrical appliances to be less electricity consuming than other brands.	,809		
Factor IV: responsibility in purchasing green products		8,469	,689
30. Social responsibility campaigns have a positive effect on the environmental awareness when purchasing products.	,566		
33. I can contribute to solving the environmental problem.	,703		
34. I inform my family and people around me about products that harm the environment.	,550		
35. Enterprises should encourage consumers to recycle solid waste.	,765		
Factor V: sensitivity to purchasing green products		7,278	,634
10. When purchasing cleaning products (detergent, soap, etc.), I prefer products with low phosphate content.	,561		
13. I can figure out from the information about the content of the products whether they are environmentally friendly or not.	,646		
14. I like to benefit from products to be thrown and produce something different from them.	,604		

The scale was originally prepared to include 35 questions. However, due to cross loading and low factor loads, items 9,11,12,15,16,21,28,29,31 and 32 were removed from scale and a structure with 25 items and 5 factors appeared in the middle. These factors are attitudes towards the environment, behavior towards the environment, economic factor in purchasing green products.

Data Analysis and Results

SPSS statistics program was used to analyze the data obtained from the research. With the help of SPSS, frequency distribution, arithmetic mean and percentages of all questions in the questionnaire were calculated. T-test and variance analysis were conducted to determine the differences between the averages, and as mentioned above, factor analysis was carried out to reduce

the number of variables in the questions regarding the green purchasing attitudes of public employees and to add a new dimension.

The results and evaluations regarding the demographic characteristics of 492 people living in Düzce province and participating in the research are as follows:

Table 4: Demographic Characteristics of Participants

Demographic characteristics of the respondents participated in the research					
Gender	**f**	**%**	**Marital Status**	**f**	**%**
Male	247	50,2	Single	144	29,3
Female	245	49,8	Married	348	70,7
Total	492	100	Total	492	100
Age	**f**	**%**	**Education Status**	**f**	**%**
25 ≤	46	9,3	High School	23	4,7
26-35	155	31,5	College	34	6,9
36-45	190	38,6	Faculty	346	70,3
46-55	86	17,5	Post Graduate	83	16,9
56 ≥	15	3,0	Doctorate	6	1,2
Total	492	100,0	Total	492	100,0
Income Status (₺)	**f**	**%**	**Term of Office (years)**	**f**	**%**
2999 ≤	68	13,8	6 ≤	135	27,4
3000-3999	47	9,6	7-12	103	20,9
4000-4999	181	36,8	13-18	79	16,1
5000-5999	158	32,1	19-24	111	22,6
6000 ≥	38	7,7	25 ≥	64	13,0
Total	492	100,0	Total	492	100,0

It is seen in the table x that, 50.2% of the respondents are men and 49.8% are women. The age range of 26-45 is 70.1% of the participants. 68.9% of the participants have income between 4000-6000 ₺. In addition, while 95.3% of the participants are university graduates, it is seen that 4-year graduates constitute 88.4% of the participants. It is determined that graduate and doctorate graduates are 18.1%. When evaluated in terms of service periods, 48.3% of the participants constitute 1-12 year intervals, while the ratio of the participants with the most experienced intervals over 25 years of age is 13%.

Table 5: Frequency on whether the inscriptions on the packaging or labels of the products can be read

Do you read the inscriptions on the packaging or label of the product purchased at the time of purchase?	**f**	**%**
Yes	394	80,1
No	98	19,9
Total	492	100,0

It is seen in table 5 that, while 80% of the participants read the inscriptions on the packages or labels at the time of product purchase, about 20% do not

read these descriptions. This ratio shows that the participants are mostly careful about the explanations on the products or labels.

Non-parametric analysis methods were chosen to test the relationship between dependent and independent variables. Because it was concluded that the data did not show normal distribution (Kolmogorov Smirnov normality test is performed; p<0,05) as a result of the normality test performed depending on the gender variable. If the assumptions of the parametric t test are not met, an alternative Mann-Whitney U test is used (Bindak, 2014).

In this section, the normality test, which is carried out depending on gender, marital status, age, education status, and dependent variables, which has two different categories, observed that the data was not normally distributed, and in this case, the Mann Whitney U test was used.

Table 6: Mann-Whitney U test results for gender dependent variable

	attitudes towards the environment	behavior towards the environment	economic factor in purchasing green products	responsibility in purchasing green products	sensitivity to purchasing green products
Mann-Whitney U	29157,500	30025,500	26570,000	26896,000	28760,000
Wilcoxon W	59292,500	60160,500	56705,000	57524,000	59388,000
Z	-,700	-,149	-2,361	-2,161	-,960
Asymp. Sig. (2-tailed)	,484	,882	,018**	,031**	,337

*significant at 0,01 level **significant at 0,05 level ***significant at 0,1 level

According to the results of Mann Whitney U test, where gender is considered as a dependent variable, both the economic factor in purchasing green products (Z = -2,361; p <0.05) variable is at the level of 5% and the responsibility in purchasing green products variable (Z = -2,161; p <0, 05) at the 5% level were found to be significant. In this case, hypothesis H_{3a} and H_{5a} are accepted and H_{1a}, H_{2a} and H_{4a} are rejected.

Table 7: Mann-Whitney U test results for marital status dependent variable

	attitudes towards the environment	behavior towards the environment	economic factor in purchasing green products	responsibility in purchasing green products	sensitivity to purchasing green products
Mann-Whitney U	20833,000	22675,500	18806,500	22622,000	23196,000
Wilcoxon W	31273,000	33115,500	29246,500	33062,000	33636,000
Z	-2,955	-1,675	-4,396	-1,720	-1,310
Asymp. Sig. (2-tailed)	,003*	,094***	,000*	,085***	,190

*significant at 0,01 level **significant at 0,05 level ***significant at 0,1 level

When thinking about marital status as dependent variable, attitudes toward environment (Z = -2,955; p <0.05) at the level of 5%, economic factor in purchasing green products (Z = -4,396; p <0.05) at the level of 1%,

responsibility in purchasing green product (Z = -1,720; p <0.05) at the level of 10%, and behavior towards the environment (Z = -1,675; p <0.05) at the level of 10% were found to be significant. Hypothesis H_{1c}, H_{3c}, H_{4c} and H_{5c} are accepted, however, H_{2c} is rejected.

Table 8: Kruskal Wallis test results for age dependent variable

	attitudes towards the environment	behavior towards the environment	economic factor in purchasing green products	responsibility in purchasing green products	sensitivity to purchasing green products
Chi-square	30,008	1,029	57,307	5,269	12,171
df	4	4	4	4	4
Asymp. Sig.	,000	,905	,000	,261	,016

*significant at 0,01 level **significant at 0,05 level ***significant at 0,1 level

In comparing three or more groups Kruskal Wallis test was performed to determine whether there is a significant relationship between the independent variables that are thought to be effective on the green product purchase process and the age as dependent variable. According to the test results, the variables of attitudes towards the environment (x^2 = 30,008; p =, 000) and economic factor in purchasing green products (x^2 = 57,307; p =, 000) were found to be significant at 1% level. According to these results, hypothesis H_{1b} and H_{3b}, are accepted, however, H_{2b}, H_{4b} and H_{5b} are rejected.

Table 9: Kruskal Wallis test results for education status dependent variable

	attitudes towards the environment	behavior towards the environment	economic factor in purchasing green products	responsibility in purchasing green products	sensitivity to purchasing green products
Chi-square	3,592	9,048	7,220	6,174	4,998
df	4	4	4	4	4
Asymp. Sig.	,464	,060	,125	,187	,287

*significant at 0,01 level **significant at 0,05 level ***significant at 0,1 level

When thinking about education status as dependent variable, Kruskal Wallis test shows that only as independent variable behavior towards the environment (x^2 = 9,048; p =, 060) were found to be significant at 10% level. According to these results, hypothesis only H_{4e} is accepted, H_{1e}, H_{2e}, H_{3e} and H_{5e} are rejected.

Table 10: Kruskal Wallis test results for income status dependent variable

	attitudes towards the environment	behavior towards the environment	economic factor in purchasing green products	responsibility in purchasing green products	sensitivity to purchasing green products
Chi-square	17,427	4,819	11,907	5,984	7,347
df	4	4	4	4	4
Asymp. Sig.	,002	,306	,018	,200	,119

*significant at 0,01 level **significant at 0,05 level ***significant at 0,1 level

Income status as dependent variable also shows significant differences between attitudes towards environment (x^2 = 17,427; p =, 002) and economic factor in purchasing green products (x^2 = 11,907; p =, 018) and subsequently

at 1% level and 5% level. So, hypothesis H_{1d} and H_{3d} are accepted, however, H_{2d}, H_{4d} and H_{5d} are rejected.

Table 11: Kruskal Wallis test results for term of office dependent variable

	attitudes towards the environment	behavior towards the environment	economic factor in purchasing green products	responsibility in purchasing green products	sensitivity to purchasing green products
Chi-square	22,567	6,019	35,091	8,406	6,035
df	4	4	4	4	4
Asymp. Sig.	,000	,198	,000	,078	,197

*significant at 0,01 level **significant at 0,05 level ***significant at 0,1 level

Kruskal Wallis test shows that there are significant differences between terms of office and attitudes towards environment (x^2=22,567; p=, 000) at 1% level, economic factor in purchasing green products (x^2=35,091; p=, 000) at 1% level and responsibility in purchasing green products (x^2=8,406; p=, 078) at 10% level. It shows that hypothesis H_{1f} H_{3f} and H_{5f} are accepted, however, H_{2f} and H_{4f} are rejected.

In this section, the effect of the participants on age, education level, income level and duration of service as dependent variable is investigated with binary logistic regression method.

Table 12: Significance of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	29,140	18	,046
	Block	29,140	18	,046
	Model	29,140	18	,046

Since the sign. value is p = 0.000 <0.05, the chi-square value is significant. The H_0 hypothesis is rejected. All logical coefficients, except the constant term, are not equal to zero. So, model coefficients are meaningful (important). Independent variables contribute to the prediction of the dependent variable.

Table 13: Degree of Relationship between Variables

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	334,145[a]	,154	,185

The degree of relationship between dependent variable and independent variables in the logistic regression model was found 15.4% according to Cox-Snell and 18.5% according to Nagelkerke

Table 14: Goodness of Fit of the Model

Step	Chi-square	df	Sig.
1	7,755	8	,458

According to the Hosmer-Lemeshow test, because Sign = 0.458> 0.05 the model provides the goodness of fit.

Table 15: Variables of the Model

		B	Sig.	Exp(B)
Step 1[a]	College	,265	,047	,919
	Faculty	,646	,007	1,358
	Post Graduate	,425	,019	1,129
	Doctorate	,411	,024	1,120
	Constant	,893	,023	2,000

Factors affecting the reading of the inscriptions on the packaging or label of the product were analyzed at the time of purchase, and it was observed that only the educational status of the participants affected the categorical variables (college, p =, 047; faculty, p =, 007; post graduate, p =, 019; doctorate, p =, 024.) According to Exp (B), faculty graduates 1,358 times reads the inscriptions on the packaging or label of the product more than non-graduates and this is the highest multiple. This ratio is 1,129 for post graduates and 1,120 for doctoral graduates. Other independent variables were found insignificant. So hypothesis H_6 is partially accepted.

Discussions and Recommendations

When hypotheses are evaluated demographically as an item, economical reasons that are effective in purchasing green products differs according to gender. When mean differentiation of participants compare, men are more careful to reduce the amount of consuming electricity than women. It is meaningful according to Gedik et al.'s study (2014), while women give less importance to the "functionality-usability" judgment than men, they give more importance to the "brand" judgment. It means women not only focus on economical usage of product but also care for brand of a product. However, women have more responsibility for green product consumption than men. Hypotheses that include relationship between economic factor in purchasing green products and demographic factors such as marital and income status, education and terms of office are also accepted. Similarly Çabuk et al (2008) found the meaningful relationship between subjected factors and green purchasing. It is seen that as income and education level increase, acceptance to pay more for green product also increases. Married couples are also likely to be environmentally friendly and sensitive to this issue. In this study, it is seen that as the economic income increases, the mean also increases and differentiates. Fisher et al (2012) found that high-income consumers exhibit more environmentally friendly attitudes and behaviors. Sensitivity to environmental products can be attributed as a status indicator. But the lower the income level, the more economic reasons prevail. The same is true for the age variable, while young individuals show more sensitivity, as the age level increases, economic reasons are taken into account more (Soonthosmai, 2001). Straughtan and Roberts (1999), in their study conducted on 235 university students in the United States, it was found that young people are more sensitive to environmental issues, women are more interested than men, and there is a positive relationship between

education level and environmental attitude. In addition, according to the study, as age and experience increase, economic factors come into play and come to the fore in attitude. In Turkey, economics reasons play an important role in purchasing decision. So, environmental sensitiveness highly depend on economic factor when purchasing products. Economic concerns could prevent environmental sensitivity. Also in this study there is no meaningful differentiation between demographic factors and sensitivity to purchasing green products but as it seen above it is not the same in economic factors while purchasing green products. Also in this study it is found that increasing in education level and marriages change the behavior against environmental issues and purchasing decision, nevertheless while married persons feel more responsible to environmental issues in purchasing decision, education status does not increase or decrease responsibility to purchase green products. However despite women are seen more responsible than men but no differentiate in behavior towards the environment. Individual's old ages decrease sensitivity but sense of behavior and responsibility to environment does not change. Robert and Bacon (1997) in their study found that youngsters are more sensitive to purchase green products, however elders are more responsible against environment.

In Turkey, as a major determining factor in consumer buying decisions price, quality, brand value and maintain its dominance today. Consumers prefer products that will benefit them the most. The reflection of the environment and environmental product understanding on the purchasing behavior of the consumer depends only on the perception of it as an element that will benefit itself. Conversely, environmentalism is kept behind in consumer purchasing decisions. Love for environment on the inside drives these consumers to maintain the environment by choosing to consume green products over non-green ones and diminish the damage (Jones, 2019).

There are several limitations in this study that should be noted for future research. First of all, the data of the research were obtained from a certain number of consumers living in Düzce by the convenience sampling method in a certain time period. The results of the nonrandom selected sample are an obstacle to ensuring generalized for all consumers in Turkey.

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