Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Management

Diploma Thesis

Green Marketing Strategies of the Turkish Dairy Industry in Marmara Region

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DIPLOMA THESIS ASSIGNMENT

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Business Administration

Thesis title

Green Marketing Strategies of the Turkish Dairy Industry in Marmara Region

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Objectives of thesis

The main aim of this thesis is to determine the profile of the modern Turkish dairy consumer amongst the 17 to 35 age group in the Marmara region, and their attitudes towards green advertising.

The second aim is to quantify the impact this consumer group has made on the strategy of the Turkish dairy industry.

Methodology

The theoretical part will comprise of a review of current literature on the topics of the modern Turkish food industry in general and the dairy industry in particular, and also trends amongst young Turkish consumers of dairy produce.

The practical part will be largely based on an analysis of a survey focusing on environmental responsibilities of consumers and attitudes towards green advertising conducted amongst young Turkish consumers in the Marmara region.

The proposed extent of the thesis

Approx 60-70 pages

Keywords

changing consumers, dairy industry, marketing strategies, green marketing

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Recommended information sources

KELLER, K L. – KOTLER, P. *Marketing management.* Upper Saddle River: Pearson Prentice Hall, 2012. ISBN 978-0-13-600998-6.

Kotler, Hermawan and Setiawan, Marketing 3.0: From Products to Customers to the Human Spirit, Wiley 2010, ISBN-13: 978-0470598825

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Declaration

I declare that I have worked on my diploma thesis titled “Green Marketing Strategies of the Turkish Dairy Industry in Marmara Region" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the diploma thesis, I declare that the thesis does not break copyrights of any their person.

In Prague on date of submission _____

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Firstly, I would like to express my sincere gratitude to my supervisor Ing. Richard Selby, PhD for the continuous support of my master thesis, for his advice, and immense knowledge.
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Green Marketing Strategies of the Turkish Dairy Industry in Marmara Region

Abstract

The world has become a small society with constantly increasing technology. The new generation is instantly adapting to those changes and globalization has radically changed the traditional consumption conception. Even now, this new trend, which we see in its latest marketing strategies, is pushing companies into the new marketing research (e.g. green marketing) and are often confronted by consumers who are sensitive to global environmental problems. Few of the businesses in Turkish Food Industry performs a variety of sustainable practices in order to ensure the economic development of the green economy. Since it is no longer possible for consumers to remain indifferent to environmental problems, businesses need to develop their strategies in this direction. Businesses related research is limited, so this research offers certain solutions and suggestions for closing this gap further.

Keywords: changing consumers, dairy industry, marketing strategies, green marketing

Zelené Marketingové Strategie Tureckého Mlékárenského Průmyslu v Regionu Marmara

Abstrakt

Nový Svět se stal malou společností s rostoucí technologií a globalizací. Nová generace okamžitého přizpůsobení se všemy rostoucímy technologiemi radikálně změnila tradiční pojetí spotřeby. Nyní tento nový trend, který vidíme ve svých nejnovějších marketingových strategiích, tlačí společnosti do nových marketingových výzkumníků. Jeden z příkladů je zelený marketing. Spotřebitelé jsou často konfrontováni citlivostí na životního prostředí.

V Tureckém potravinářském průmyslu se neprovadí mnoho udržitelných postupů zaměřených na hospodářský rozvoj zelené ekonomiky.Vzhledem k tomu není možné, aby spotřebitelé zůstali lhostejní k problémům životního prostředí. Podniky musí rozvíjet své strategie tímto směrem. Jelikož jsou výzkumy v tomto úseku omezené, tato práce nabízí řešení nedostačujících poznatků v této lokalitě.

Klíčová slova: měnící se spotřebitelé, marketingové strategie, zelený marketing

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List of abbreviations

AMA: American Market Association

FCRN: The Food Climate Research Network

IFCN: International Farm Comparison Network

IFPRI: International Food Policy Research Institute

IPCC: Intergovernmental Panel on Climate Change

SDC: Sustainable Development Commission

TUIK: Turkiye Istatistik Kurumu (Turkish Statistical Institute)

UNEP: United Nations Environmental Programme

USAID: United States Agency for International Development

USK: Ulusal Sut Konseyi. (National Dairy Council)

SME: Small and Medium-sized Enterprise

OECD: Organisation for Economic Co-operation and Development

1 Introduction

By the end of the twentieth century, a rapid change occurred in the world with the developing economy and advancing technology. As a result, lifestyles, production, consumption and marketing concepts of societies have changed.

Today's society has become a society where all economic, social and cultural relations built around the consumption concept, consumption has reached quantitatively serious dimensions, and the whole system is dependent on consumption. Consumers consciously or unconsciously converted their consumption habits into personalities. Today, consumption has become a process that includes sensory perceptions that do not only rely on rational dimensions. This situation requires a better observation of the behaviour, habits and experiences of the consumers.

Industrialisation and the development of technology, along with manufacturing activities showed a significant increase, besides the variability and diversity of products, the direct relations between the producer and the consumer have broken, and the activities of the intermediary institutions and persons have increased significantly. As a result of the growth of firms, the difficulty of providing a stable operation in the competitive market and the spread of monopolistic activities, the consumer has become weaker and needed to be protected in the consumption society.

The phenomenon of consumption also becomes a controllable behaviour with awareness. The conscious consumer is the consumer who is aware of the power to direct the market. In other words, it is defined as the consumption of the consumer according to his / her needs, with the awareness of his / her universal rights and the responsibility of the natural environment and other individuals living in the society helps change the economy and society. Decisions taken by a conscious consumer and the products he chooses are also a reflection of his values and virtues. Those type of consumers makes their choices about truthfulness, honesty, equality and environmental responsibilities.

Minimising environmental problems is perhaps the most important of the social responsibilities of enterprises. As the sensitivity to the environment has increased rapidly in recent years, businesses use environmentally sensitive production technologies to prove their sensitivity to the environment and to meet the demands of their consumers in this direction.

One of the significant problems that marketing managers may face today is to increase the demand of consumers to environmentally friendly products, to examine the product ranges and to make the necessary changes in this direction. To this end, it is required to conduct marketing research, develop new marketing strategies and inform consumers about the environmentally-friendly features of their products.

2 Objectives and Methodology

2.1 Objectives

This thesis aims to determine the profile of modern Turkish milk consumers in the 17-35 age group in the Marmara region. The survey will measure the impact of this consumer group on the Turkish dairy industry's green marketing strategy by measuring environmental awareness and assessing attitudes towards green advertising. It will end by making recommendations to the Turkish industrialist and identifying foreseen benefits.

2.2 Methodology

For this purpose, a survey is conducted of at least 200 consumers in the 17 to 35 age group from the Marmara region. The attitudes of participants towards the green advertisement and environmental responsibilities are determined. Later on, demographic variations are calculated whether has significant differences on variables.

For the survey, a list of questions is arranged according to a specific purpose and order. The questionnaire form consists of two parts. In the first part, there are five questions to determine the demographic characteristics of the consumers such as gender, age, educational status, household income and marital status. The second part of the survey consists of 30 questions to determine the environmental responsibilities of consumers and attitudes for green advertising. The answers to these questions are structured with 5-point Likert scale (1 = strongly disagree, 2 = disagree, 3 = Neutral, 4 = agree, 5 = Strongly Agree). SPSS and excel are used for analyzing data.

3 Literature Review

3.1 Changing Consumer

It is important to know the concept of changing consumer. Because all the production associations and market success on the world depends on understanding the shape and form that this concept will take.

In recent years, there have been many evolutions in the marketing field all over the world. The changing consumer profile has greatly influenced purchasing behaviour and habits. As a result, the development of new marketing strategies has become inevitable. However, instead of the traditional marketing approach, consisting of a modern marketing concept has been determined following consumers' needs and wishes dominate the market (Su, 2017).

In both national and international arena, marketers have always turned to practices that will differentiate themselves from their competitors. Therefore, to understand consumers, they need to carefully analyse the factors that affect them and create customer segmentation accordingly (Gul, 2013).

Nowadays, environmental problems are encountered in individual and social life. As societies and consumers, individuals become aware of the fact that environmental resources to sustain their lives due to ecological issues are decreasing. As a result, consumers who are aware of their responsibilities towards the environment and who act in line with these responsibilities have emerged (Durmaz, 2011).

Consumers who are aware of the fact that the resources and habitats that continue to live in standard living conditions are decreasing, behave more precisely in the consumption process. This trend in individuals led to the emergence of green consumer and environmentalist consumer concepts. The consumer audience is more concerned about purchasing and consumption processes and is more sensitive to the use of natural resources in production processes and the recycling of products (Durmaz, 2011).

The increasing environmentalist tendencies in the consumers also lead institutions and organisations to exhibit responsible behaviours to the environment. As a result of the expectations and demands of consumers, environmental pressure groups, employees, laws

and media against ecological problems; it is observed that institutions and organisations also focused on the environment. Many new concepts and ideas have emerged in this process where the institutions and organisations are trying to carry out their economic activities with an environmental focus due to the mentioned reasons. One of these concepts is the green advertisements that provide the products, services and activities that the institutions and organisations demonstrate in the axis of their responsibilities to the environment.

3.1.1 Generation Case

Generation theory states that generation groups share life experiences that lead them to develop similar attitudes and beliefs (Meriac, 2010). The shared experiences and social context cause each generation to develop different beliefs, expectations and opinions about different lives and different behaviours. Therefore, these societies are distinguished not only by differences in age but also by differences in values in attitudes and beliefs (Berkowitz, 2011).

According to another study, the macro-level social, political and economic events that took place in the pre-adult years of a society lead to an intergenerational identity that includes a unique set of values, beliefs, expectations and behaviours. It has been demonstrated that these values, beliefs, expectations and behaviours will not change during the life of a generation (Jackson et al. 2011).

There are four major cohorts in the United States. There are four major cohorts in the United States. Builders were born between 1920 and 1945; Baby Boomers were born between 1946 and 1964 calls; Generation X was born between 1965 and 1980, and Generation Y was born between 1981 and 2000. Millennia is slightly different from previous generations. With most of these changes occurring slowly, rather than affecting one generation or another, they should be considered as social shifts of generations raised in the same conditions separated at certain time intervals (Deal, 2010).

Whether cultural or national boundaries affect generation classification should also be investigated. Taken globally, more than half of the world's population is now online. Africa has the fastest growth rate, with an increase in the number of internet users. In 2017, more than 200 million people bought their first mobile device and two-thirds of the world's 7.6 billion people own a mobile phone. The use of social media has also continued to leaps and

bounds. More than three billion people, social media users and nine out of ten users access these platforms via mobile devices in the world (We are social LTD, 2019). In this global world, can we say that a young person in New York or a young person in Peking has the same characteristics, needs and expectations of a young person in Istanbul? It would be wrong to make a global generalisation, but important events such as wars, financial crises or the invention of the Internet that changed the world should have a similar effect on most nations.

Table 1 Global Generation Overview

1945	1965	1980	2000	2020
Traditionalist	Baby Boomers	Gen X	Gen Y	Gen Z

3.1.2 Millennial Generation

Rapidly developing internet technologies in recent years have caused new consumption environments to emerge. However, generations born in the years when digital communication tools are dominant have been expressed with various names as new types of consumers. Especially those born after 1980 have been described as millennials. Although the indigenous digital generation, which also covers post-1980 births, is mentioned in the literature, there are many variables except for the age that reveals the characteristics of the indigenous digital generation. The concept of original digital is a generation that is wholly conceptualised within the framework of digital-technologies, unlike the cultural codes of generation Y (Aydin, 2018). In this respect, it would be a more appropriate approach to consider generation Y as inclusive and to link these individuals with new consumption environments.

It is seen that the masses classified as Y and Z generations, millennials and digital indigenous groups have age clusters. Generation Y, which is thought to shape the consumption society, is the first generation whose real identity is referred to as consumption (Solomon 2007). On the other hand, one of the world's leading strategists, states that the Y generation representatives are not wasteful and are highly conscious consumers (McQueen 2010).

Besides, this group particularly stands out because although the consumption habits are at a high level, this generation wants to have detailed information about a product before buying it.

The new generation representative, Millennial Generation, is defined not only by demographic data but by a combination of demographic cohorts, values, life experiences, and purchasing behaviour (Leung, 2003). Past generations worked to live a better life. Their common focus was to start a family and provide a healthy future for the family. On the flip side, the Millennials remained secondary in getting married and launching families. 75% of this generation is still single, proving that older generations focus on family and home more. Gen Y was the first generation to have access to information without the need for a specific person, which has created a unique employee profile. It is the first global generation to connect with the development of the Internet and social media (Espinoza et al., 2010).

Generation Y, known to be influenced by its environment in purchasing decisions, conducts much research on their smartphones before the purchase decision and consults individuals with whom they interact with products and services through social media channels. It is known that generation Y can make a purchase decision by reviewing the comments of family and friends' circles and reference group shares on social media prior to the purchase. After the purchase, Y generation expresses their dissatisfaction or satisfaction by using social media channels (Ng, Schweitzer, & Lyons, 2010).

While the consumption habits of digital natives are rapidly expanding the online shopping market, they are positioned as the most strikingly growing market in history for retailers (Noble et al. 2009). Because of the enormous impact of this new generation in the economy, marketers are making more and more effort to find ways of motivating shopping for young consumers and investing an increasing amount of research money (Shim et al. 2011).

According to Prensky (2001), conceptualised digital natives, always surrounded and interacted with new technologies. According to him, digital natives think differently from older generations and process information in their minds in different ways. Digital natives are groups that get information fast, prefer graphics before the text, random access, and work effectively in online environments. These individuals expect to be rewarded with instant pleasure from their work and become more motivated as a result. According to Prensky

(2001), digital natives are fully compatible with the digital language of computers, games and the Internet.

One of the most recent examples is global credit crisis in the United States led to a significant decline in the economic standards of many people but has also increased the potential to create dramatic changes in the way people manage their financial resources and habits (Everett and Grogan 2009).

Growing computer and internet use, the generation is insecure about authority and government. They react quickly to marketing practices that they find fake or artificial. Thanks to their ability to express their views on blogs, posts and social media, they can organise millions of people around the world and get a quick turn (Der Hovanesian, 1999).

In terms of purchasing habits, Gen Y consumers are more aware of their strength as consumers and are expected to spend their cash as fast as they can in personal consumption or the services sector (Der Hovanesian, 1999). This new generation, which looks at the buying process more emotionally, places great emphasis on respect. Marketers and retailers who empathise with their customers and invest in customer relationships will be one step ahead of others. The Y generation, has excellent knowledge of what they want, are demanding and self-confident, has a different attitude to brand loyalty compared to Baby Boomers (Yarrow & O'Donnell, 2009).

3.1.3 Turkish Perspective

According to the Turkey Statistical Institute (TUIK), the Address Based Population Registration System 2017, recorded the population of Turkey, which was 80 million 810 thousand 525 people. As of 2017, reached 82 million 3 thousand 882 people by the end of 2018 with an rise of 1 million 193 thousand 357 people. Social media usage in Turkey has risen sharply compared to Europe (TUIK 2018).

Based on this research, the Y generation in Turkey can be as active users of social media. According to a survey conducted by TUIK, Turkey has the highest youth population estimated between Europe and neighbour countries. Therefore, it will become a significant marketing target, undoubtedly, when considered in terms of the size of the Y generation in Turkey.

3.2 Green Marketing

There are many environmental disasters due to climate changes. Ecological problems such as droughts and floods and ozone layer damage frequently encountered in different parts of the world due to increased greenhouse gas emissions. By damaging the ozone plate, harmful rays come directly to the world and cause global warming. As a result, the melting of the glaciers and the flooding of the cities near the sea are in question. Due to the environmental disasters faced last year, billions of dollars damage, and many sectors, especially transportation and agriculture, suffered from problems.

Factors that cause environmental problems are; rapid population growth, unconscious industrialisation, irregular urbanisation, unconscious use of natural resources, nuclear weapons and nuclear plant explosions, forest damage and avalanches such as adverse effects on the natural balance of ecosystems deterioration. With the increase of conscious people, environmental issues take place more in the media, environmental activities are becoming widespread, and consumers are receiving environmentally friendly products (Flavin, 2002).

In general, the green economy does not have an agreed definition. However, according to UNEP, (2011), green economy; is a development tool that reduces carbon dependence, increases resource and energy productivity, and reduces environmental degradation. According to OECD (1999), the green economy is to measure, prevent, limit, minimise and eliminate ecological damages related to water, air and soil, as well as waste, noise and environmental problems and to produce all kinds of clean technologies, goods and services.

Green Marketing is the marketing activity that plans and manages processes from the design of eco-friendly products till the processes after the use of the product that will enable the enterprise to reach its goals while fulfilling the needs and demands of the consumers (Belz, 2009).

Marketing managers are now often confronted by consumers who are sensitive to environmental problems. The old approach, which sees enterprises as organisations that try to make profit only, loses its importance rapidly in the face of a new understanding that is sensitive to social problems and that seeks to be quality-oriented institutions. In addition to producing environmentally friendly products and choosing eco-friendly markets, the environmentally friendly approach must be placed in the corporate culture.

Rapid developments in technology caused the natural resources to be exhausted, and significant environmental pollution occurred in the process. Since nature and human beings are always intertwined, concerns about the future of nature bring about the fear of the future for humanity.

The green marketing approach can be examined in four stages (Warner, 1996).

- In the first stage, green products designed for green consumers. For example, cars working with alternative fuel technology, products that do not harm the environment. We can call this stage green targeting.
- In the second stage is green strategies development. For example, environmental measures such as removing less waste and increasing energy efficiency are engaged.
- In the third stage, only green products are produced by stopping the production of non-green, non-green products.
- In the fourth step, it is not enough to be environmentally friendly. The business has now reached an awareness of social responsibility in every sense. Companies can reach green marketing awareness depending on the business culture and environmental factors.

3.2.1 Green Consumer

For consumers, environmentalism has become a more important issue as a result of increased environmental hazards arising from products and production processes. Green consumers are those who buy products that are sensitive to the environment and do not harm the environment.

We can divide the green product and service market into four segments: Trendsetters, value seekers, standards followers and cautious buyers, and are detailed in Table 2 below. Trend-makers create the new market, while value-seekers and standards follow the mainstream market, cautious buyers come from behind. Since each segment has different opinions about the benefits of the product, the marketing approach for each one must be different (Kotler, 2010).

Table 2 Four Target Segments of the Green Market

Consumer Segmentation				
	Trendsetters	Value-Seekers	Standard matchers	Cautious buyers
Profile	- Nature lovers or visionary environmentalists - Emotional or adoptive motivation to use a green product - Seeking competitive advantage through green innovation	-Environmental pragmatist - Rational motivation to use green products -Use the green product to increase productivity and save cost	-Blimpishness about the environment - Expects green products to be massively used - Uses standard green products	- Skeptical about the environment - Do not believe in green products
Positioning	**Eco-advantage** Innovative product for competitive advantage	**Eco-efficiency** Creating more value with less impact	**Eco-standard** Product with mass use	-

Source: Kotler 2010

3.2.2 Green Marketing: Conceptual Development and Origin

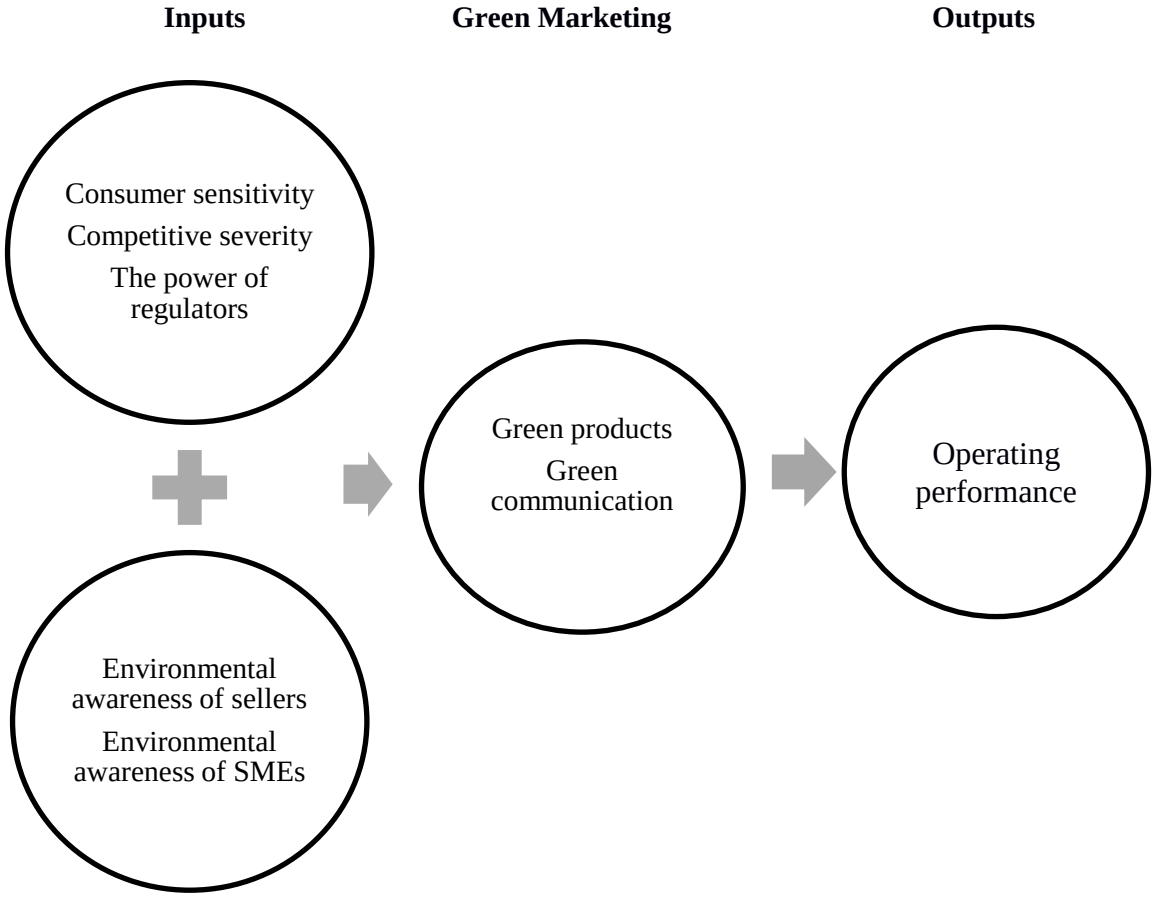
Green consumers prefer environmentally friendly products and increase the sales of these products within market conditions. Green consumers want more functional products than products in the market; also, they want to know the potential harm that these products can effect to the environment. Many countries have adopted green labelling to address this need and guide consumer choice. Governments in northern European countries have taken decisions to identify a universal green labelling system such a labelling method to inform the consumer, to ensure that the labelled products are purchased more and to create a competitive incentive to improve the quality of environmentally friendly products (Wise, 2000).

The term of green marketing presents terminological diversity with terms such as environmental marketing and ecological marketing. Although it was trendy in the early 1990s, it was first discussed by the AMA in 1975. In the workshop organised by AMA, ecological marketing was defined as a study has the positive and negative aspects of marketing activities related to pollution, energy and non-energy resource consumption. In a broader sense, green or environmental marketing is a set of activities to facilitate and regulate

any change designed to satisfy people's desires or needs that have the least harmful impact on the natural environment (Polonsky, 2000).

As a result, green marketing aims to minimise environmental damage rather than eliminating it. In Figure 1 below, the forward and backward linkages of green marketing can be examined, and other concepts related to them can be seen.

Figure 1 Inputs and Outputs of Green Marketing



Source: Langerak, 1998

As can be seen from the figure, consumers' sensitivity to the environment, competitiveness in the industry and the power of environmental laws, the environmental awareness of the sellers and the environmental awareness of the enterprises are achieved through high business performance through green marketing. Therefore, green marketing acts as a bridge between these factors and helps to complete the process.

The terms that explain the relationship between marketing discipline and the public policy process and the natural environment are environmental marketing, green marketing, ecological marketing, sustainable marketing and green marketing. Green marketing is a strategy to promote products about environmental claims, qualifications or systems, policies and processes of the companies that produce and sell them. More specifically, green marketing is part of the ultimate, top partnership strategy. Taken alongside the traditional marketing mix (product, price, distribution and promotion), this requires an understanding of public policy processes. Green marketing also has strong links to industrial ecology and environmental sustainability, such as expanding producers' responsibilities, expanding their obligations, life cycle analyses, substance use, resource flows and ecological efficiency. Thus, green marketing is a broad subject because it has significant contributions to business strategy and public policy (Prakash, 2002).

In sustainability, as a social goal, significant changes in the behaviour of producers and consumers are essential. Sustainable consumption involves not being compromised by the interests of future generations when using products and services that meet requirements and improve the quality of life and being sensitive to them.

Sustainable marketing is the reconciliation of product systems and economic and ecological activities. In other words, sustainable marketing is the planning, development, control, pricing, promotion and distribution of products to meet the needs of the consumers, to reach the organisational objectives, to ensure that processes are compatible with the ecosystem.

There are four basic principles for sustainable marketing:

1) Ecosystems are a physical limiting factor in marketing decisions. Therefore, the marketing strategies allocated for full payment of environmental impacts and eco-costs should be standard operating procedures.

2) The product system conforms to the life cycle decision framework. The impact on the ecosystem is the result of many interrelated decisions by many people and organisations. The product system life cycle, the decision framework, ecological impact and issues, are necessary for understanding sustainable marketing solutions.

3) Pollution prevention and resource recovery are strategies that will ensure sustainability. With the development of zero-waste, zero-discharge product systems, these strategies will increase the sustainability of the ecosystem and make it permanent.

4) Small environmental advances made by firms and consumers impact on sustainable marketing. Organisations and consumers think green marketing practices as essential to developing sustainability (Durali, 2002).

Green marketing is part of the concept of social marketing. In another way, product, price, promotion and distribution of customer needs and minimising the negative impact on the natural environment is the way to understand the mutual relations between planning, implementation and audit policy (Chamoro ve Banegil, 2005).

Green marketing is also defined as the design, production, packaging, labelling, reaction to the use of goods and services used (Lampe and Gazda, 1995). There are significant differences between traditional marketing and green marketing as a way of thinking. Creating a green marketing philosophy in a business cannot be achieved by establishing a department. Above all, the environment must be one of the defining values of the culture of the organisation in order to obtain a whole organisation concerned about the environmental impact of its activities. Two factors support this requirement. First, the environmental impact of the product can hardly be reduced if the other functional units of the enterprise do not take into account the environmental situation affecting the ecological quality of the final product, for example in terms of design, supply and production. Secondly, green product buyers buy not only a green product but also the green image of the business. The business uses the product on its own; the attitude of the product and the enterprise in this direction constitutes the total product. Therefore; the manufacturer of the green product, the organisation should ensure that all other activities are green. If the enterprise does not simultaneously implement the ecology theory of the enterprise as a whole, the message can achieve minimal credibility on the client-side. At the same time, the company is at risk of being criticised continuously by different pressure groups (Chamoro and Banegil, 2005).

Green marketing has two purposes: to develop and supply, environmentally friendly products and to create a quality-based image that gives all stakeholders the idea that the business is sensitive and friendly to the natural environment (Miles and Russell, 1997). Consumers are entirely related to the image of enterprises, particularly in the social interest

and environmental responsibility. Internal environmental marketing efforts of partnerships resulting in two variable fictions of sustainable marketing should be supported and improved by government policy. Sustainable marketing includes proactive partnership strategies that will be beneficial to both partnerships and the community and government intervention for sustainable development. The concepts of environmental marketing, green marketing, eco-marketing and sustainable marketing are all approaches and perspectives to adapt the business environment to the growing environmental concerns of different stakeholders (Miles and Russell, 1997).

3.2.3. Eco Labelling

According to Peattie, it categorised a product as green when it meets the needs and desires of customers and produced in a socially convenient and sustainable way (Peattie, 1995, p. 180). The significant criteria such as a dual focus on environmental and social achievement, a constant development orientation, use of both competitors' offerings at present and past products as a mark for comparison, and an emphasis on meaningful change are part of green product definition (Peattie, 1995). When measuring the ecofriendly of a product, various characteristics must be considered: What is the product (raw material and human resources), the purpose of the product, the importance of product use and abuse, the hazards of product use, product endurance, product elimination, and finally the place where the product is made (Peattie, 1995).

Eco-labels can be proof used by a corporation to notify and present its buyers that it has applied environmentally sensitive production or distribution programs (Bruce & Laroiya, 2007). Environmental symbol or eco-label developed by a corporation is a label that determines the overall environmental preference of a product or service in a product category based on lifecycle considerations (Global Eco Labeling Network, 2004). However, an independent third party is not affected by the company seeking certification provides the eco-label (United Nations Office for Project Services Office, 2009).

Many companies create their logo or symbol for the service and product they produce and marketing these products without real eco-labels reveal the problems of eco-labels.

Because the eco-label has a distinctive feature and its level, it makes it different from a simple logo. For a reliable eco-label, the product must meet some basic standards. The eco-

labelling system, measurable and proven with state-of-the-art scientific data guaranteed by objective representatives of industry, government, retailers, the consumer in the definition of the environmental criteria. (United Nation Office for Project Services, 2009). International Organization for Standardization (ISO) identified three types of voluntary labels, type I, II, III (attachment 4).

Type I: Consists of independent and reliable labels (ISO14024: 1999) which take into account the impact of products and services. Eco-labels have to achieve stringent environmental quality criteria and ensure that the products supplied meet the highest environmental standard in that market share. After an independent verification process, the participation of a large number of stakeholder develope the specific quality criteria.

Type II: Labels belonging to this group do not get approval from an independent authority and also have some differences with other labelled products. These labels, which are developed within corporations, can be used in publications, logos and advertisements.

Type III: The Eco-label contains qualified product information and Life cycle information. Companies compile environmental information according to the reporting format, and a qualified third party independently controls this data. The labelling of the products and the comparison of the products with the created parameters are facilitated. These labels do not indicate the environmental performance level of the products, and they are only objective data, the evaluations are determined by the recipient (European Commission, 2000).

3.2.4 Carbon Footprint labels

Since the early 1990s, increasing consumer interest in sustainability and sustainable development began to spread in Western European markets. The concept of sustainability is considered an evolution of an environmentalist approach dating back to the 1970s (Kumar et al., 2012). Sustainability includes a broader range of aspects, with the economic goal for consumers and at the same time establishing fair prices for producers, making a fair profit, protecting environmental resources and taking social aspects into account (Vermeir and Verbeke, 2006). Sustainable products can be considered to be better than other products considering all of the aspects such as reasonable costs, fair profit, protecting environmental resources (Vackier et al., 2002). When considered by the consumer, sustainable consumption

is based on a decision-making process that takes account of the economic, environmental and social consequences of the individual's behaviour, apart from needs and desires.

According to most scientific research, norms that make up daily consumption practices such as value for money, habit, personal health concerns, hedonism, and individual responses to social and institutional norms can hardly change (FSA, 2000; SDC, 2003). The ethical consumer tends to feel responsible to society and to express this feeling through purchasing behaviour, especially with sustainability concerns. (De Pelsmacker, 2003).

Therefore, green marketing strategies are the channels used to engage sustainable initiatives of companies to consumers. (UNEP, 2015). Also, these strategies creating an advantage by implement awareness for companies (Brunelle et al., 2017). Product labels and trademarks are the most effective ways to demonstrate companies' actions with sustainable products.

Notably, sustainable labels are designed to illustrate the sustainable concept of companies in both environmental and ethical or social issues. (Zander and Hamm, 2010). An information plan on the concept of sustainability in the agri-food sector is included in 129 laws prepared and issued by the European Commission (Grunert et al., 2014).

There are many food labels in terms of sustainability such as bio-label, blue agriculture or LEAF (Linking Environment and Farming) label, carbon-footprint label. Bio-label shows products produced according to organic farming standards. Blue agriculture or LEAF (Linking Environment and Farming) label is indicating that environmentally-friendly agricultural techniques are used, the carbon-footprint label shows the environmental damage caused by human activities in terms of the amount of greenhouse gas (Bazzani ve Canavari, 2017).

Today, most bio labelled products among sustainable labels are found in the Italian market. In most European countries, organic farming has accelerated since 1990, and in 2009 Europe became 54% of the world's organic food and beverage market (Sahota, 2009: 60). The main reason for this increase is due to consumer demand as well as government support (Haas et al. 2010).

Besides, the major part of the increase in eco-friendly products is the ease of trade between European countries, and the easy access to products by both associations and private companies, which has led to an essential share in the food market support (Haas et al. 2010).

The big retailer companies have entered the organic food and eco-friendly products market by evaluating the demands of the consumers, and companies initiative have developed green marketing and improved food production and distribution.

With the increase in organic food in Italy in recent years, it has become the first country which is the most organic agricultural area in Europe (Van Osch et al., 2008). Despite the lack of identification of organic and eco-friendly products and the lack of international labelling, Italian interest in local products is increasing day by day (Bazzani and Canavari, 2013 and 2017).

Although Carbon Footprint labels have recently come out light with climate skew problems, there is little recognition among consumers. Therefore, the effect of retailers on the spread of these labels and their recognition by consumers is essential (Cohen et al., 2012). Therefore, for labelling products with carbon footprint, the agreement between private label suppliers and brand suppliers should be based on the same label (Carr-Shand et al. 2009).

3.2.5 Green Washing

Carrying out communication activities in the field of sustainability contributes to the reputation management of companies as well as raising public awareness. Today, individuals, consumers, and indeed all stakeholders, are questioning the accuracy of the data and explanations presented within the scope of communication studies and hard evidence. In this context, communication studies on sustainability should not be carried out only because the issue is a trend. In other words, it is necessary to be careful not to fall into the Green Washing.

In general, if the correct data is not shared with transparency in the communication study, this is covered by Greenwashing. The Guardian (2016) briefly describes Greenwashing as misleading environmental promises and messages. On the other hand, according to Carlson the organization and companies whose budget is spent on advertising and marketing with the claim of being environmentalist are higher than the budget they spend on developing their business processes in order to give less negative impact on the environment, are generally shown among those who apply Greenwashing tactic (Carlson, 1193).

TerraChoice, an environmental-oriented consultancy, publishes the "The 'Six Sins of Greenwashing' research in 2007. According to the research, the number of Green Products that were on the market in only one year during the transition from 2009 to 2010 increased by 73 percent. However, more importantly, 95 percent of the products on the market do not fully comply with the promised criteria in communication studies, message or package design (TerraChoice 2007).

3.2.6 Green Advertising

Advertising is one of the methods of communication by using mass media to enable companies-brands to reach their target market by paying to provide information about their products and services (Haytko, 2008). As consumers' environmental awareness increases day by day and the laws show more sensitivity to protect the environment, businesses tend to conduct their processes more environmentally sensitive. Green advertising that emerged in the 1990s is a type of advertising used by companies to announce, promote and purchase these activities and products to consumers. Green ads are also ads that contain messages that the business adopts the green lifestyle, that the products and services they produce do not harm the environment and that they are working to improve the environment (Richards, 2013).

The green movement started to be popular as the day went by, January 2009, Google recorded 15.6 million clicks and 31 million clicks in the next two months (Erdman, 2008). According to another definition, green advertising that claims that the advertised product, brand or company is environmentally friendly and that it preserves resources and energy by the methods it uses in the production process (Kim & Han, 2016). Advertising creates realisation and awareness of the consumer and is a convincing communication tool. Therefore, green advertising is one of the important tools that companies use to influence their intention to purchase green products. Most green advertising messages leave an impression in the minds of the buyers. Expressions such as recyclable, environmentally friendly, ozone-safe, biodegradable are frequently given messages in green advertisements (Hassan, 2016). Green advertising can also be defined as promotional messages prepared to respond to the needs and wishes of sensitive consumers about the environment (Muralidharan, Ferle, & Sung, 2017). The primary purpose of green advertising is to change the perception of the target audience, create awareness and enable the consumer to buy

environmentally friendly products. Accordingly, green advertisements inform consumers about green products and direct them to these products (Hassan, 2016). At the same time, green content ads try to convince consumers to adopt a green lifestyle and thus contribute to the development of a greener planet (Bhatia & Jain, 2013).

Some studies emphasise that green consumers who tend to buy green products are generally sceptical about advertising but remain loyal to the brand (Zhu, Sarkis, & Geng, 2005, p. 40). The general idea of preparing a potential environmental advertisement should focus on environmental importance feature. Standard commercial advertisements that consist of a small paragraph or have a hidden environmental message claim do not show environmental sensitivity and are not considered environmental advertisements.

3.2.7. Reasons for Businesses to Choose Green Marketing

The reasons for the companies to choose green marketing is explained with the following five items (Ay, 2005).

1- The companies see green marketing as an opportunity to reach their goals.

2- Businesses think that they increase their reputation by showing social responsibility.
3- Government agencies are obliging enterprises to be sensitive to the environment with various incentives and sanctions.
4- Businesses use their environmental activities as an element of pressure on other businesses they compete with.
5- Cost factors such as compensation, raw materials and other material is used during the discharge of waste are forced to change the behaviour of the enterprises.

3.2.8. Government incentives and sanctions

The state carries out the necessary legal infrastructure and regulations to protect consumers and society. These arrangements include green marketing activities. The legal of the country for protection purposes are as follows (Peattie, 2001).
1- Reduction of Hazardous products or by-products,
2- To change the demands of the industrialists and consumers and to prevent the production of harmful products
3- To contribute to the environmental education and awareness of consumers.

3.3 Turkish Consumers and Dairy Industries

3.3.1 Turkish Modernisation

The phenomenon of modernisation in European societies due to industrialisation; refers to a social structure based on reason and rational principles. Industrial capitalism, which constitutes the economic dimension of the modernisation process, has led to an increase in consumption over time, depending on the rise in production, and it has made societies a consumer society. (Altintug 2010).

Turkish society has started to take Europe as a reference for itself for almost two hundred years, especially after the Ottoman lost its superiority to Europe. In this course, the Ottoman intellectuals and bureaucrats, who perceived the role of modernisation in advance of the West, initiated a mental modernisation movement. The modernisation of the Turkish society in the republic periods after the Ottoman Empire, which missed the economic, social, legal, financial and cultural dynamics behind the modernisation phenomenon, followed a different path from Europe and reached different results. (Yanıklar, 2006). In Turkish society and people, first of all, the social and psychological characteristics of Turks should be evaluated from a scientific point of view in order to find out how the modernization process and its consumption activities, which is a product of this process, has begun and how it develops at the current point. Considering the fact that societies have a memory and subconscious mind just like individuals, it is important to see how important this assessment is (Kaya and Kentel 2008).

3.3.2 Turkish Customer Profile

The most important factors shaping the social elements of the Turks is that their history is based on a nomadic society. This reality led the Turks to have a constant existential concern and internalise the goal of being in management and turn to practical solutions to overcome the harsh conditions and obstacles of the day. Instead of making innovations or inventions in order to guarantee their lives, they have adopted successful techniques and methods. (Goka, 2006).

These statements confirm that the Turks are always a society of civilisation synthesizing rather than developing civilisation, and are therefore always open to innovations, no matter

how conservative. The foundation of the social unity of Turks was not a race, blood, religion, language unity, but generally a craft or state union. Being influenced by the different geographies and different civilisations created by the nomadic society has made the Turks a smart and dynamic society (Ortaylı 2007).

The influence of the old culture of Turkish people is thought to continue in consumption and consumer behaviour. Because the concepts of glory, honour, heroism, and honour are the most important features, Turkish people regard consumption as a more emotional process rather than as a rational process. So imitation, showing the effects of indulging in luxury and status, can be inflamed unconscious consumption frenzy. (Goka 2008).

In the modernisation process, the most consistent answer to the question of whether Turkish society is like European consumer society type is that it does not coincide and it follows its course, although it shows significant improvement. (Bıçakçı 2008). In this formation, both material and abstract phenomena were determinant. Industrialisation and consequent increase in production have not been the driving force of Turkish modernisation. Economic, legal, financial, technological and cultural dynamics have been influential in the modernisation phenomenon as a mental process. For this purpose both the development and modernisation of Europe has also watched a different route as a result of the modernisation of Turkey. Although the phenomenon of mass consumption increases day by day, there are big differences between regions in terms of income level and income distribution of Turkish people according to Europe. For these reasons, even though it was not the product of a conscious effort, the phenomenon of mass consumption still could not penetrate the general public. (Bıçakci 2008).

For today's consumers, it is not so different from the past; the meaning of life is to make more money and consume more. To be younger, more beautiful, wealthier and more powerful; it is constantly being imposed on people from childhood since it has become a social pre-acceptance. (Zorlu 2003). In this case, women, men, old, young and all segments of the society take their share and are encouraged to consume more. However, as previously mentioned, this consumption structure has not spread throughout Turkish society (Fırlar and Dundar 2006).

3.3.3 Current Situation Evaluation Of The Milk Industry in the World

According to toWorld Bank 2014 data, the world GDP is 79.3 trillion dollars, of which 3.3 trillion dollars in the agricultural sector. As of 2014, the value of cow's milk in agricultural production value is 310.4 billion dollars (9.91%), the value of sheep milk is 5.2 billion dollars (0.17%), and the value of goat milk is 3.5 billion dollars (0.11%) (FAO, 2016).

Presence of Live Animals

The number of live animals in the world increased by 16.2% in 2016 compared to 2000 and reached 3,850 million. The biggest increase in this period was recorded as a goat with 33.4%. As of 2016, 38.3% of the total live animals were cattle, 30.7% sheep, 26.1% goat and 5.2% buffalo. The use of feeding methods that increase meat yield per animal rather than increasing the number of animals around the world limits the increase in the number of animals. As a matter of fact, when Table 3 is examined, it is seen that there is no significant increase in world livestock assets over the years (FAO 2016).

Table 3 Presence Of Live Animals İn The World (Million Heads)

	cattle	**buffalo**	**goat**	**sheep**	**Total**
2000	1,314	164	752	1,060	3,291
2005	1,367	177	840	1,095	3,478
2010	1,416	188	911	1,075	3,589
2011	1,421	190	916	1,097	3,625
2012	1,430	192	936	1,112	3,671
2013	1,434	193	955	1,133	3,715
2014	1,442	194	965	1,138	3,740
2015	1,452	196	979	1,160	3,788
2016	1,475	199	1,003	1,173	3,850

Source: FAO, 2016

Production

As of 2016, total milk production in the world is 796 million tons, comprising 82.8% cow milk, 13.9% buffalo milk, 1.9% goat milk and 1.3% sheep milk. Sheep, which makes up 30.7% of the world's livestock, has a low share in milk production due to low milk yield. Between 2000 and 2016, world milk production, livestock farming in many parts of the world in more modern conditions, more qualified breeding material and adequate and high-quality feed use enabled milk yield to be increased (FAO 2016). Because of this, it has increased by 37.5%, and the highest increase has been in buffalo milk by 66.6%. In the same period, the amount of cow milk production increased by 34.3% (Table 4).

Table 4 World Milk Production (Thousand Tons)

	Cattle	**Buffalo**	**Goat**	**Sheep**	**Total**
2000	290,757	66,639	12,707	8,475	578,578
2005	546,046	78,905	14,519	9,202	648,671
2010	602,995	92,419	16,225	9,875	721,514
2011	617,330	96,056	16,704	9,685	739,775
2012	631,420	98,942	17,121	9,915	757,398
2013	636,586	102,379	16,953	10,135	766,053
2014	656,701	107,718	17,104	10,326	791,851
2015	666,761	109,494	17,036	10,672	803,963
2016	659,150	111,001	15,262	10,367	795,780

Source: FAO, 2016

In 2016, world cow milk production was recorded by ten countries in Table 5, with the largest share being India (20.1%), USA (12.1%), and China (5.2%). In Turkey, with 16.8 million tons of production, it constitutes the 2.1% share. India, which ranked first in production in 2000 2016, has doubled production and China's production has increased fourfold. In the same period, cow milk production in the USA, which ranks second in production, increased by 26.9% (FAO 2016).

Table 5 Cow Milk Production by Country (Thousand Tons)

	2000	2005	2010	2014	2015	2016
India	75,953	95,829	122,06	146,517	155,684	159,388
USA	75,953	80,283	87,521	93,490	94,644	96,385
China	11,971	31,684	40,790	41,869	42,260	41,544
Pakistan	25,566	29,438	35,491	40,282	41,592	39,652
Brazil	20,643	25,646	30,959	35,360	34,860	33,878
Germany	28,353	28,481	29,646	32,419	32,708	32,700
Russsia	32,276	31,147	31,841	30,785	30,791	30,752
France	23,885	23,938	24,206	25,828	25,935	25,378
N.Zealand	12,235	14,638	17,010	21,320	21,939	21,672
Turkey	9,794	10,026	12,418	16,998	16,933	16,786
Other	258,045	276,480	288,446	305,350	304,896	295,942
World	578,578	647,589	720,389	790,218	802,241	794,077

Source: FAO, 2016

Among the EU countries, as of 2016, Germany was 4.1%, and France was among the top 10 countries in the world cow milk production by 3.2%. However, with the abolition of milk production quotas in the EU since 2015, the amount of milk production has increased in almost every EU country, particularly in Ireland and the Netherlands. According to IFCN (International Farm Comparison Network) data, approximately 62% of the total cow and buffalo milk produced in the world is transferred to industry, but this rate changes year by year due to many factors such as raw milk prices, raw milk supply and the decrease in the number of cows in the world and other countries (USK, 2017). World milk production, which was 149 million tons in 2000, increased by 18.8% and reached 177 million tons in 2014. As of 2014, 77.7% of the world's total dairy production was processed milk, 12.8% was cheese, and 3.5% was butter (Table 6).

Table 6 World Dairy Products Production (Thousand Tons)

	Drinking milk	Butter	Cheese	Yoghurt	Other	Total
2000	119,655	5,112	16,590	31	7,276	148,664
2005	126,504	5,601	18,724	67	8,339	159,236
2010	128,006	5,604	20,585	101	9,552	163,849
2011	131,874	5,823	20,750	86	9,843	168,376
2012	135,707	5,899	21,251	116	10,167	173,140
2013	136,704	5,984	21,861	165	10,458	175,171
2014	137,224	6,132	22,652	164	10,438	176,609

Source: FAO, 2016

3.3.4 Turkish Dairy Industry

Nowadays, individuals are becoming more conscious about nutrition, raising awareness about the importance of animal protein sources in nutritional order and making livestock activities economically attractive have brought animal husbandry to an important point in Turkey as well as all over the world. Livestock activities have gained commercial value thanks to rural development support programs and support to animal husbandry.

Agriculture and animal husbandry contribute to the solution of many social and economic problems such as increasing national income and employment, contributing to the national economy by providing raw materials to other sectors, increasing the added value for stable development, reducing urban migration and the social problems caused by this.

Table 7 The Number of Animals Used in the Dairy Industry in Turkey (thousands)

	2000	2005	2010	2015	2016	2017
Cattle	5,280	3,998	4,361	5,560	5,432	5,969
Sheep	15,920	10,166	10,584	15,363	15,149	17,503
Goat	3,793	2,427	2,581	4,578	4,555	4,964
Buffalo	70	38	35	63	63	69
Total	25,062	16,629	17,563	25,540	25,200	28,505

Source: TUIK

The presence of animals in Turkey regularly increases every year. In the last five years, the presence of cattle has increased by 18.2% to over 17 million heads, the presence of sheep has increased by 20% to 35.1 million heads, and the presence of goats has increased by 18.4% to 10.9 million heads (TUIK 2018).

With the increase in the quantity of animals, the milk yield level per animal increased with the improvement of care and nutrition conditions in Turkey and the awareness and specialisation of the producers in dairy farming. The total number of milked animals increased by more than 2 million heads (7.2%) in 2018 compared to the previous year; the number of milked cows was calculated as 6.337.907 head, number of sheep 18.819.284 head, number of goat 5.327.166 head and number of buffalo 75.882 head. In the same year, over 20 million tons of cow milk, 1.4 million tons of sheep milk and 561 thousand tons of goat milk were produced throughout the country.

When evaluated in the long and medium-term, the most significant improvement was observed in cow's milk, although there was an improvement in milk productivity in all species. The yield per animal, which was 521 kg in 1930, increased to 1,351 kg in 1990 and 2,970 kg in 2013. The yield per milked cow increased by 6.4% in the last five years, and the yield per animal in 2018 was calculated as 3.161 kg/head (TUIK, 2018).

Also, total milk production obtained from all species in 2018 increased by 6.9% compared to the previous year was calculated to be 22,120,716 tons. When the milk production amounts were evaluated according to the species, the milk production amount obtained from all species increased at different rates. In 2018, a total of 22.1 million tons of milk was produced. In total, 20 million tons (90.6%) were cows, 1.4 million tons (6.5%) were sheep, 561 thousand tons (2.5%) were goats, and 75 thousand tons (0.3%) were buffalo milk (TUIK, 2018).

Table 8 Raw Milk Production by Years and Types

Year	**Cattle**		**Buffalo**		**Sheep**		**Goat**		**Total**
	Ton	%	Ton	%	Ton	%	Ton	%	
2000	8,732,000	89.19	67,300	0.69	774,400	7.91	216,300	2.21	9,790,000
2009	11,583,313	92.35	32.443	0.26	734,219	5.85	192,210	1.53	12,542,186
2010	12,418,544	91.69	35,487	0.26	816,832	6.03	272,811	2.01	13,543,674
2011	13,802,428	91.7	40,372	0.3	892,822	5.9	320,588	2.1	15,056,211
2012	15,997,838	91.8	46,989	0.3	1,007,007	5.8	369,429	2.1	17,401,262
2013	16,655,009	91.4	51,947	0.3	1,101,013	6.0	415,743	2.3	18,223,712
2014	16,998,850	91.2	54,803	0.3	1,113,937	6.0	463,270	2.5	18,630,859
2015	16,993,520	90.8	62,761	0.3	1,177,228	6.3	481,174	2.6	18,654,682
2016	16,786,263	90.8	63,085	0.3	1,160,413	6.3	479,401	2.6	18,498,161
2017	18,762,319	90.6	69,401	0.3	1,344,779	6.5	523,395	2.5	20,699,894
2018	20,036,716	90.6	75,742	0.3	1,446,271	6.5	561,826	2.5	22,120,716

Source: TUIK, 2018

In order for the livestock sector to maintain or increase its competitiveness, productivity per animal, as well as production, should be increased. In other words, it is inevitable to improve both the animal and the environmental conditions in which the animal is located. There are effects of environmental factors and genetic structure on the differences in the phenotypic values or products of the animals (Aksoy 2003).

Production of Milk and Dairy Products

Most of the cow milk (16.5%) collected by commercial dairies in Turkey is supplied as drinking milk. According to the data published by TUIK, the amount of milk production in Turkey has increased by 25.4% in the last five years. TUIK publishes the total amount of drinking milk production every month and annually. The amount of milk subject to statistics covers only packaged drinking milk in the industry.

Cheese, which has an important place in Turkish breakfast culture, is one of the most basic dairy products produced in modern dairy processing facilities and dairy farms increased by 9.5% compared to the previous year and was recorded as 756 thousand tons (TAGEM, 2018).

Due to the widespread consumption in Turkey, the production amounts of yoghurt and ayran, which are the most processed products after drinking milk, increase every year. Yoghurt production increased by 2.2% in 2018 and reached 1.19 million tons. In the summer months, the production of ayran was increased by 1.8% compared to the previous year and reached 730 thousand tons (TUIK, 2018).

Table 9 Milk and Dairy Products Production (Thousand Tons)

	Raw milk	**Drinking milk**	**Cheese**	**Yoghurt**	**Ayran**	**Butter**	**Milk Powder**
2010	6,197	993	437	834	367	34	72
2011	7,074	1,165	519	1,007	459	38	79
2012	7,932	1.25	564	1,053	508	38	82
2013	7,939	1,298	600	1,081	506	42	79

2014	8,626	1,311	633	1,101	599	46	111
2015	8,934	1,379	666	1,123	627	52	113
2016	9,213	1,445	661	1,174	685	58	124
2017	9,112	1,549	690	1,172	717	59	133

Source: TUIK, 2018

Milk powder; It is a solid product obtained by removing water from milk, cream, or a mixture of these products, which is fat, fat partially or entirely removed, and moisture content in the final product is up to 5% by weight. Although there is a general belief among the public that it is a chemical, artificial or unhealthy product, milk powder is generally milk product are consisting of dry matter that remains as a result of the evaporation of the water contained in the raw milk. Milk powder; It is used in many sectors including chocolate, biscuit and pastry making, ice cream and confectionery manufacturing, making dried ready products such as instant soups, animal food and cosmetic products (TAGEM, 2018).

In Turkey, milk powder showed an increase of approximately 40% in production in the last five years. Milk powder production decreased by 17% in 2018 compared to the previous year and was calculated as 109 thousand tons. Whey is a protein-rich product obtained by filtering through precipitation during cheese and casein production. Whey was considered as waste only in previous periods, and the environmental pollution problem was encountered due to organic matter content. Whey, which used to be used only as animal food or fertiliser in liquid form, is used in different fields of food sector with developing technological opportunities such as drying, concentrating or fermentation and can be used as infant food, biscuit, chocolate, processed meat products, pastry and bread-making in order to increase the nutritional value of foods, especially protein value (USK, 2018).

It is generally used as a cream raw material in the production of butter which has at least 82% milk fat content and obtained by processing milk, cream or yoghurt in different ways. As in other milk and dairy products, butter production increases every year. According to TUIK data, butter production, which was calculated as 59,449 tons in 2017, reached 65,856 tons in 2018 with an increase of 10%.

Consumption of Milk and Dairy Products

Although there is no strong data on the consumption of milk and dairy products, per capita annual consumption amounts in drinking milk and other dairy products are estimated. When the amount of raw milk production published by TUIK is taken into consideration and the population data for the same year and the import and export figures of dairy products are ignored, the per capita milk consumption of Turkey in 2018 is estimated as 270 kg/person milk.

Table 10 Population of Turkey

Year	population	increase rate
2013	76,667,864	
2014	77,695,904	1.34%
2015	78,741,053	1.34%
2016	79,814,871	1.36%
2017	80,810,525	1.24%
2018	82,003,882	1.47%

Source: TUIK, 2018

Figure 2 Population of Turkey and Raw Milk Consumption

Source: USK, 2018

The amount of milk production at 1.6 tons in total in Turkey, 1.5 million tons (92%) as UHT launched to the market; the remaining amount represents pasteurised milk.

Table 11 Drinking Milk Production Amounts (Ton)

	2015	2016	2017	2018
pasteurised whole milk	81,881	92,321	120,557	130,677
pasteurised %2 milk	23,682	65,199	1,514	2,163
pasteurised skim milk		758		
UHT whole milk	846,816	814,857	927,751	871,650
UHT %2 milk	416,700	459,080	495,415	647,019
UHT skim milk	3,402	1,274	6,704	6,456
Total	1,378,524	1,433,541	1,551,942	1,657,965

Source: TUIK, 2018

Increased demand as a result of income growth, urbanization and individuals making more conscious choices about nutrition has increased the amount of milk and dairy products produced in modern facilities (USK, 2018). Considering the amount of milk production registered in Turkey and foreign trade data and the amount of milk collected by the integrated milk enterprises, the consumption of drinking milk per capita in 2018 is estimated to be approximately 41.5 kg.

One of the most heavily consumed milk products in Turkey is cheese. White cheese has the highest market share, and its consumption has increased in parallel with production over the years. As of 2018, total cheese production amount, which is 756 thousand tons, is estimated to be 18.4 kg of cheese per capita with a calculation that includes milk production and cheese import and export.

Yoghurt and ayran, which have an essential place in Turkish culture, are the most processed dairy products after drinking milk. In 2018, per capita yoghurt consumption was 30.6 kg, buttermilk consumption was calculated as 18.4 kg.

Butter is very high in nutritional value and has the highest amount of protein compared to other fats. Butter consumption in Turkey is quite common. According to the calculation made in drinking milk and other dairy products, butter consumption is recorded for 2018 is 1.78 kg per capita, annual.

3.3.5 Ecological and Environmental Impact in the Dairy Sector

The impact of climate change on farming and husbandry has been an significant part of (agricultural) scientific research for more than two decades. Most of these studies in the field of climate impact research have made clear the agricultural significance of climate change. However, climate change in animal husbandry also has direct and indirect effects on production and economic efficiency (Hopkins, 2007) mainly, for the dairy cattle farm where the farm's local feed production, climate events and partial grazing are typical.

Scientific studies show that global warming of the atmosphere is taking place, which also causes climate change at the regional level (IPCC, 2007). These changes affect milk production in Europe in many ways. Direct effects may be more prolonged periods with unusually high summer temperatures, leading to heat stress in the dairy cows. Among the most important consequences in the context include a decline in milk yield, reduced fertility and an impairment of the immune system. In fodder crops, there is also the risk that the extremes in precipitation distribution (dryness, heavy rainfall events) will lead to qualitatively and quantitatively more poor harvests and the growth of certain weeds (Hebeisen, 1997). Finally, both animals and plants may suffer from increased stress from pathogens due to climatic changes (Anderson, 2004), which is also usually associated with loss of yield and quality.

Indirect effects of climate change can occur if milk or feed production in other regions is negatively impacted, thereby creating supply and price effects. The milk price on the world market can rise if milk production in important production regions is significantly reduced due to extreme drought. Furthermore, the cost of purchased feed, such as soybean meal, may increase if the climatic conditions in major growing regions deteriorate (Martinsohn, 2013).

The effects of climate change on milk production are diverse and complex. Positive and negative, direct and indirect effects occur (mostly) simultaneously so that the overall effect is not immediately apparent. Besides, significant differences can be observed between countries and regions, which only allow general conclusions to a limited extent (Martinsohn, 2013).

When As evidenced by empirical studies is check carefully, in order to ensure food security in the future, the agricultural productivity index (2005 = 100) should increase to 250 if the

population will be 9 billion in 2050. Farmland continues to decline, and temperatures will rise by 2 degrees (Lotze-Campen and Schellnhuber, 2009). Also, the projections prepared using various climate scenarios emphasise that decreasing agricultural production will cause increasing the number of food-insecure people will in the future (Müller et al., 2009). For example, Cline (2007) predicts that global crop production yields will decrease by 15.9% in 2080 compared to 2003. In case we cannot adapt to climate change, the food security deficit is expected to be 30-40% in Africa and Southeast Asia in 2050 and 20-30% in South and Central America (Met Office, 2016). For example, in Sub-Saharan Africa, hungry children are estimated at 33 million in 2000 and are expected to rise to 52 million in 2050 by climate change (Nelson et al., 2009).

It is possible to examine the effects of climate change on animal production under four main headings such as availability, quality and price of forage plants, effects on pasture quality, effects on animal diseases and pests, effects on animal health, growth and reproduction (Thornton and Gerber, 2010). Dairy cattle are more susceptible to climatic changes than other animals due to their high metabolic rate and low water retention capacity in the renal systems (Bernabucci et al., 2010). The direct effects of climate change on dairy cattle can be grouped under five main headings: growth, milk production, reproduction, adaptation and disease formation. Temperature stress caused by climate change (heat stress, thermal stress) is one of the biggest problems faced by dairy cattle and causes worries all over the world (Bajagai, 2011).

The decrease in milk production is due to the direct effect of temperature stress on 65%, while 35% is due to low consumption of dairy cattle (Wheelock et al. 2010). When the daily temperature reaches 25-27 degrees, feed consumption of dairy cattle decreases and the temperature reaches above 35 degrees; consumption decreases by 10-35% (Conrad, 1985).

In addition to the decrease in milk yield, climate change also affects fertility in dairy cattle. In a study conducted with 11.302 cows in Japan, it was determined that exceeding 80 temperature-humidity indexes reduces pregnancy rate by 40% (Nabenishi et al., 2011). In addition, extreme events can cause death in animals (Gaughan and Cawsell-Smith, 2015). Warmer winter months allow disease vectors such as flies and ticks to live longer and facilitate reproduction, thus increasing the incidence of disease in animals (Bett and Grace 2014).

One of the indirect effects of climate change on dairy cattle is the impact on forage crops (Gerber, 2010). The increase in average temperatures and changes in the amount, distribution and intensity of precipitation directly affect the growth timing and duration of pastures and crops. For example, climate change has reduced corn and wheat production by 3.8% and 5.5% since 1980 (Lobell et al., 2011). According to many projections, crop production yields will decrease by 10-20% in the future due to the combination of heating and drought (Müller et al., 2009). In addition to low yield, it is argued that climate change will have widespread effects on feed quality and thus adversely affect livestock yield (Thornton et al., 2010). The decrease in productivity and production will inevitably bring about the price increase. According to IFPRI, corn prices are expected to be $ 150 / mt in 2050, while climate change is expected to raise the price to $ 250. The same applies to wheat, soy and other cereals (IFPRI, 2010).

3.3.6 Green Economy and Applications in Food Industry

Under the pressure of global population growth, ensuring a sustainable balance between the supply and demand of food is perceived as one of the biggest problems that need to be solved for humanity in the coming years (Boye and Arcand, 2012). Problems that affect the whole world, such as excessive use of chemicals, human-induced changes in climate, reduced biodiversity, air, water and soil pollution, lead people to new searches in agriculture, food production and processing. On the other hand, rising consumer awareness and pressure on ethical understanding and sustainability in resource use in food production practices led to the emergence of new paradigms (Yucel & Oz, 2014). Green economy and its applications started to find a place in the food industry as a result of all these searches.

The food industry derives its raw material from the agricultural sector, and the integration between the two sectors is significant. In this respect, in order to talk about the existence of the green economy in the food industry, the agricultural systems applied should also be green. Even if green economy practices are utilised in food processing or packaging processes, if the raw material source of the food industry does not comply with the principles of the green economy, one link of the chain will be incomplete. In this context, agricultural systems such as organic agriculture, which considers nature and human, are essential in terms of providing raw materials to the food industry that will apply the principles of the

green economy. In the food industry, Green economy applications can be utilized in production, packaging and distribution processes (Yucel & Oz, 2014).

All of the applications in these processes are mentioned as green supply chain in various sources. The food industry is dependent on energy in order to maintain the freshness and reliability of foods both during production and after production. In the food industry, 29% of total energy is used for heating, and 16% is used for cooling and freezing (Okos et al., 1998). In addition to the production process, electricity consumption is also high for lighting and heating activities. For these reasons, the use of renewable energy sources such as solar energy, biomass energy in food production systems will provide energy gain. Also, biodiesel can be obtained from various products which are not used in human nutrition such as algae, fertilizer and necessity to be emphasized. On the other hand, although biofuels can be obtained from certain agricultural products such as sugar cane, corn, oilseeds, there is also a reaction against these products as they are extensively used in human nutrition.

Reducing the total amount of greenhouse gas emissions resulting from activities such as transportation, heating, electricity consumption, which is called carbon footprint and measured in units of carbon dioxide, is also among the targets to be achieved in the green economy in the food industry. Reducing greenhouse gas emissions in the UK food chain The Food Climate Research Network (FCRN), an initiative aimed at the Agri-Industry and Organization pathway, states that food consumption is responsible for approximately 31% of greenhouse gas emissions in the EU (PAGEV, 2010). Therefore, various world companies in the sector are turning to alternatives such as using wind energy to reduce greenhouse gas emissions, switching to rail and short-haul transportation instead of long-distance road transport (Nestle, 2013). The concept of food miles also explains the measurement of the carbon footprint in the food field.

The so-called green supply chain or green supply chain management is also used in the food industry. The green supply chain is a new paradigm in which product development and environmentally friendly product strategies are combined. With the addition of the green title to the concept of supply chain management, restructuring has been brought to the agenda in every step of the supply chain (Buyukozkan and Vardaloglu, 2008). In this context; products are transported in larger groups rather than in small groups, reduction of general packaging and materials used, transition to recycled materials instead of plastic materials in

packaging, use of environmentally friendly motor vehicles in transportation are implemented in green supply chain management in food industry (Once and Marangoz, 2012).

Increasing consumer awareness and giving importance to the sustainability of conscious consumers has led to the organization of consumers among themselves by developing new perspectives, as well as encouraging food producers in the green economy. The new concept of international movement 'Slow Food', which was launched in Italy in 1986. The Slow Food movement emerged with the philosophy of "good, clean, fair food, taking into account the environment, livestock and producers' income level. Increasing awareness of sustainability and social justice, the Slow Food movement aims to protect traditional food, protect biodiversity and support the local economy. The Slow Food movement is spreading around the world and bringing together producers and consumers who value sustainability (Kavas, 2012).

Another issue related to the green economy and food consumption and therefore, production is to encourage more sustainable nutrition and eating patterns. Especially in terms of rich countries, it is foreseen that sustainable food consumption and encouragement of nutrition will provide significant savings in preventing food waste and waste. On the other hand, the increase in the consumption of animal products, as well as the consumption of fruits and vegetables, leads to more losses in perishable foods. In both cases, the transformation of the chain of food supply, production, distribution and consumption in the world and the creation of sustainable food consumption attitudes will help to maintain natural resources and thus set up a necessary part of the green economy. The private sector should first take into account the loss and waste in investments to be made in developed countries. In this sense, it is important to give real value to food and to encourage the transition to a sustainability in developing countries and countryside (FAO, 2012).

3.3.7. Green Economy and Applications in Turkish Food Industry

Today, natural resources are faced with the threat of extinction every day. Providing sustainable economic development without damaging or minimizing the environment for a sustainable future has been one of the most critical objectives of countries, enterprises and institutions (Kamber, 2014).

However, according to Gunes, Keskin and Kiymaz (2014); few of the businesses in Turkey Food Industry performs a variety of sustainable practices in order to ensure the economic development of the green economy. Although some large-scale enterprises carry out various practices related to the green economy under the names of sustainable production and social responsibility projects, such applications remain generally limited to large-scale enterprises in the Turkish food industry.

Compared to developments in the field of the green economy in the world, it is seen various developments in Turkey as yet limited. Turkey and the United Nations countries participated in the Conference on Environment and Development held in Brazil in 2012. In this context, Turkey supports the concept of green economy and sustainable development approach has made the call in a project to identify the best practice countries and proposed project calls for the best 24 applications out of 181 applications have been selected. Among the best green economy practices selected; In the brewery, there are examples of food industry such as water and energy saving barley and hops, sustainable production, collecting waste oils in the oil industry, preventing environmental pollution and using these oils in biodiesel production and collecting and recycling food packaging wastes (Sürdürülebilirlik Akademisi., 2012). Apart from this, it is possible to come across various initiatives and practices related to the green economy and sustainable development in the Turkish food sector. Takış Gıda, a company that produces milk and dairy products in Samsun, has started the project preparations for the establishment of a system that converts solar energy to electricity in order to use environmentally friendly sources (Günes Haber, 2014). In İzmir, Pınar A.Ş stated that 98% of product packaging is made of recyclable materials, reducing the amount of wastewater by 15.75% through projects implemented to save energy and reduce pollution (Pınar, 2014). Under the name of the sustainable tea farming project, Lipton has stated that it provides training to tea producers in many areas such as waste management, conservation of natural life, fertilization and implementing the Solid Waste Collection Project in the Black Sea Region (Lipton 2014). In another green economy application, as a result of the joint work of Ankara Halk Bread Factory of Ankara Metropolitan Municipality with Hacettepe University and Tübitak, bread that cannot be sold and left in the bakeries are converted to chips and thus waste of bread is prevented. (Kalkınma Bakanlığı , 2014).

Although the new green economy development in Turkey in the field of the food industry, in parallel with consumer demands, it can be stated that some of the companies started to

show sensitivity to this issue. In terms of supply XI. National Agricultural Economics Congress (2014) despite some positive developments in Samsun, some factors limiting consumption have increased less than expected in demand. Turkey consumers who participated in a survey conducted in 15 provinces across, stated that the biggest obstacles to green and environment-friendly products are the high price and the lack of information about green products. According to this research, the greenest products according to consumers are recycled bags, and organic foods, 73% of consumers stated that they could pay a little bit more for green products provided they fit their budgets. Green crop consumption increased in university graduates, women and upper-income groups (Sürdürülebilirlik Akademisi, 2012). It is thought that consumption may increase in case of increased sensitivity in the society, sufficiently publicizing and promoting the benefits of green products to the individual and the environment, creating a trust against green products and lowering product prices.

4 Practical Part

4.1 Subject and Purpose of Research

The subject of the research is to determine the attitudes of the consumers who are divided into different groups according to their environmental responsibilities. Survey participants were chosen as per to Y, and Z generations in the Marmara region and age scale are between 17-35 age group. The relationship between demographic characteristics such as gender, education level, marital status, household income questioned. Also, the sub-dimensions of environmental responsibility and attitudes towards green advertisements were discussed.

In this study, which is a relational survey type, the relationship between environmental responsibility and demographic characteristics (gender, age, education level, household income and marital status) of consumers were investigated.

For this purpose, the hypotheses determined within the scope of the research are:

H1: There is a significant relationship between environmental responsibilities of consumers and attitudes towards green advertising.
H2: Individuals with high environmental responsibility have a more positive attitude towards green advertising than individuals with low environmental responsibility.
H3.1: There is a significant relationship between gender and environmental responsibilities of consumers.
H3.2: There is a significant relationship between the attitudes of consumers towards green advertising.
H4.1: There is a significant relationship between the marital status of consumers and environmental responsibilities.
H4.2: There is a significant relationship between the marital status of consumers and their attitudes towards green advertisements.
H5.1: There is a significant relationship between the age of consumers and environmental responsibilities.
H5.2: There is a significant relationship between the age of consumers and attitudes towards green advertisements.
H6.1: There is a significant relationship between household income and environmental responsibilities of consumers.

H6.2: There is a significant relationship between household income and attitudes towards green advertisements.
H7.1: There is a significant relationship between education level and environmental responsibilities of consumers.
H7.2: There is a significant relationship between the education level of consumers and attitudes towards green advertisements.

4.2 Importance of Research

In line with the evolving environmental responsibility of consumers, green advertisements are more common in the media in recent years. In this context, determining consumer attitudes towards green advertisements within the scope of the research is fundamental in terms of organising communication activities within the framework of environmental sustainability.

4.3 Collecting and Evaluating Research Data

After determining the subject of the research, a comprehensive literature review and a questionnaire form were created with a list of questions arranged according to a specific purpose and order. The questionnaire was composed of three parts.

In the first part, there are five questions to determine the demographic characteristics of consumers such as gender, age, education level, household income and marital status. The second part of the survey consists of 30 questions to determine the environmental responsibilities of consumers and consumers' opinion about green advertisements. The answers to these questions were structured with 5-point Likert scale (1 = Disagree, 2 = Disagree, 3 = Undecided, 4 = Agree, 5 = Strongly Agree). The scale in this part of the questionnaire was formed by the expressions of Haytko and Matulich (2008) in Cronbach's 95 environmental responsible consumer behaviour scale 0, which is 0.895.

In the last section, Haytko and Matulich used Cronbach's green advertising attitude scale, which has an alpha value of 0.70, in order to determine the attitudes of consumers surveyed towards green advertisements. The statements here are arranged according to the 5-point Likert scale.

SPSS Statistics 17.0 (Statistical Package for Social Sciences) for Windows 10 was used for statistical analysis. Descriptive statistical methods (frequency, percentage, mean, standard deviation) and t-test and ANOVA test were used to evaluate the research data.

4.4 Findings

In the first part of the research, the frequency distribution of the sample group according to gender, age, education level, household income and marital status was examined. Then, the findings of the relationship between the validity, reliability and environmental responsibility of the research and the attitudes towards demographic characteristics and green advertisement were presented.

4.4.1 Demographic Findings

As shown in Table 12, 57.9 percent of the participants were female, and 42.1 percent were male. 43.6 percent of the participants are married, and 56.4 percent are single. Moreover, 27.9 percent of the respondents were between 17-24 years, 40.6 percent were between 25-31 years, 31.5 percent were 32 years old. Mode value recorded 25, and median value recorded 27. 20.3 percent of the participants have a high school, and under, 61.4 percent of the participants have a bachelor degree, and 18.3 percent of the participants have a higher education level. Total monthly personal incomes, 22.8 percent of 0-1000 TL, 9.9 percent of 1001-2000 TL, 46.5 percent of 2001-5000 TL, 20.8 percent of is 5000 TL and above.

Table 12 Findings on Demographic Characteristics of the Participants

Sex	Frequency	%
Male	85	42.1
Female	117	57.9
Age	Frequency	%
17-24	56	27.9
25-31	101	40.6
32 and above	45	31.5

Education	Frequency	%
Primary school	4	2
High school	37	18.3
Bachelor degree	124	61.4
Master degree and above	37	18.3
Income	Frequency	%
0-1000	46	22.8
1001-2000	20	9.9
2001-5000	94	46.5
5000 and above	42	20.8
Marital status	Frequency	%
Married	88	43.6
Single	114	56.4

4.4.2 Validity Analysis of Environmental Responsibility and Attitude Scales for Green Advertisements

Factor analysis was conducted to test the validity of environmental responsibility and attitude scales towards green advertisements in the second and last sections of the questionnaire. Factor analyses performed are shown in the Tables below.

Table 13 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,853
Bartlett's Test of Sphericity	Approx. Chi-Square	1342,042
	df	190
	Sig.	,000

Table 14 Results of Rotated Factor Analysis of Environmental Responsibility Scale

Questions	Factors					
	Acting for the Environment (Factor 1)	Green Product Choice (Factor 2)	Emotional Environmentalism (Factor 3)	Environmental Insensitivity (Factor 4)	Environmental Responsibility (Factor 5)	Environmental Inactive (Factor 6)
I make a special effort to buy environmentally friendly packaging products	,836					
I changed my preference for many products for environmental reasons	,814					
Some of the products that I have preferred only because they are safer against the environment	,794					
I read product labels to see if the product content is safe for the environment.	,780					
I become a more loyal customer for the environmentally friendly products of the companies.	,656					
Recycling is difficult for me to do.		,801				
It is really important for me to separate the garbage for recycling.		,783				
I am annoyed when I think industrialisation is damaging to the environment.			,843			
It scares me to think about our food-related to the			,593			

danger of environmental waste.						
I am very concerned about how climate change will affect future generations.			,582			
I am willing to use a bicycle or public transport to reduce air pollution.			,520			
I attend the meetings of an organisation that aims to improve the environment.				,746		
I often subscribe to publications on environmental issues.				,683		
I contact the authorities regularly about what I can do to find solutions to environmental problems.				,643		
I closely monitor the steps taken by lawmakers - legislators on environmental issues				,367		
I think I know a lot about environmental issues					,815	
I understand what environmental expressions and symbols in product packaging mean					,622	
I am aware of the recycling opportunities in my area.					,597	
Even if everyone saves energy at home, this does not have a significant impact						,830

on energy consumption.						
Protecting the environment is not my business; it is the government's duty.						,607

Extraction Method: Maximum Likelihood.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 7 iterations.

Table 15 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,825
Bartlett's Test of Sphericity	Approx. Chi-Square	785,876
	df	45
	Sig.	,000

Table 16 Rotated Component Matrix

	1	2	3	4
Many of the green advertising is insulting people's intelligence.	,843			
Green advertising is deceptive.	,794			
The environmentally sensitive product / corporate ads exploit the environmental concerns of consumers.	,651			
Green advertising makes products more expensive.	,628			

Environmental product / corporate advertising help solve environmental problems.		,821		
The institutions behind green advertising are good intentions.		,731		
The Advertisements promoting green products/organisations are important for the community.			,862	
I have a positive outlook on green advertising.			,649	
I believe the claims in their green advertising are real.			,592	
Green advertising shows consumers to focus on consumers' environmental concerns.				,930

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 9 iterations.

Both scales in the study were analysed by the exploratory factor analysis method and the Varimax rotation method. For both analyses, Kaiser Values are found higher than 0.6 and sig. Value is 0. Thus, the variables of the research are convenient to make this factor analysis. In the scales, the similar factor weights and the factor weight below 0.50 were excluded from the analysis. Thus, six factors were obtained in environmental responsibility scale and four

factors in attitude scale towards green advertisements. The factors on the scale of environmental responsibility were called the action for the environment, environmental product choice, emotional environmentalism, environmental sacrifice and environmental inactive. Factors in the scale of attitude towards green advertising are an opinion about institutions and products, trust in green advertising, general negativity, moral and ethical negativity.

4.4.3 The Findings of the Relationship between Environmental Responsibility and Attitude towards Green Advertising

In this step of the study, data verified by correlate method, and three questions are eliminated from analyses due to the possibility that the respondents may evaluate those questions incorrectly. The table shows correlation value, and according to the results of the study, when the relationship between environmental responsibility and attitude towards green advertisements is examined, it is seen that those with low environmental responsibility have negative attitudes towards green advertising, and those with high environmental responsibility have positive attitudes towards green advertisements. This finding supports the hypothesis of the research H1 (there is a significant relationship between environmental responsibilities of consumers and attitudes towards green advertising) and H2 (individuals with high environmental responsibility have a more positive attitude towards green advertising than individuals with low environmental responsibility).

Table 17 Descriptive Statistics

	Mean	Std. Deviation	N
Environmental Responsibility	3,4849	,59384	697
Attitude towards Green Advertisements According	3,6337	,63262	697

Table 18 Correlations

		Environmental Responsibility	Attitude towards Green Advertisements According
Environmental Responsibility	Pearson Correlation	1	**,243****
	Sig. (1-tailed)		,000
	Sum of Squares and Cross-products	245,604	63,483
	Covariance	,353	,091
	N	697	697
Attitude towards Green Advertisements According	Pearson Correlation	**,243****	1
	Sig. (1-tailed)	,000	
	Sum of Squares and Cross-products	63,483	278,723
	Covariance	,091	,400
	N	697	697

4.4.4 Differentiation of Environmental Responsibility and Attitude towards Green Advertisements According to Demographic Characteristics

According to the independent group t-test results, since the siq value was bigger than 0.05, environmental responsibility and attitude towards green advertiser is not significant in comparison the **gender** variable. As a result, it does not show that women have higher environmental responsibility than men. Thus, the hypothesis H3.1 (there is a significant relationship between the gender of consumers and environmental responsibilities) is not supported. Additionally, there was no significant variance between gender and attitude towards green advertisements. The hypothesis H3.2 (there is a significant relationship between the attitudes of consumers towards green advertising) is not supported as well.

Table 19 Group Statistics on Gender Variables

	sex	N	Mean	Std. Deviation	Std. Error Mean
Environmental Responsibility	male	292	3,4487	,57579	,03370
	female	406	3,5109	,60587	,03008
Attitude towards Green Advertisements According	male	292	3,6512	,61346	,03591
	female	406	3,6212	,64651	,03210

Table 20 Independent Samples Test on Gender Variables

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Environmental Responsibility	Equal variances assumed	,868	,352	-1,366	695	**,172**
	Equal variances not assumed			-1,377	644,728	,169
Attitude towards Green Advertisements	Equal variances assumed	,509	,476	,617	695	**,537**
	Equal variances not assumed			,623	645,248	,534

A significant relationship was found between **marital status** and environmental responsibility. The study supports the hypothesis H4.1 (there is a significant relationship between the marital status of consumers and environmental responsibilities). However, there was no significant difference between marital status and the attitudes towards green advertisements. According to this, it cannot be determined that married people attitudes are different from single ones. In conclusion, the hypothesis H4.2 (there is a significant relationship between the marital status of consumers and their attitudes towards green advertising) is rejected.

Table 21 Independent Samples Test on Martial Status

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Environmental Responsibility	Equal variances assumed	2,622	,106	-2,271	695	**,023**
	Equal variances not assumed			-2,256	624,486	,024
Attitude towards Green Advertisements	Equal variances assumed	6,212	,013	,288	695	,773
	Equal variances not assumed			,282	583,646	**,778**

One-way analysis of variance (ANOVA) was conducted to define whether the variables in the environmental responsibility and attitude towards green advertisements showed a significant difference according to the **educational status**. Then, as the number of primary schools graduated participant was low, high school and primary school graduates were combined and tested. Then, Games-Howell test was applied to have detailed information about attitude towards green advertisements. As a result of the analysis, the H7.1 hypothesis

(there is a meaningful relationship between education level and environmental responsibilities of consumers) is not supported. However, a significant relationship was found between attitudes towards green advertisements and educational status. Hence, the H7.2 hypothesis (there is a significant relationship between the education level of the consumers and their attitudes towards green advertisements) is supported. Additionally, as per pos-hoc test, high educated people have a different attitude towards green advertisements than other groups.

Table 22 Test of Homogeneity of Variances on Educational Status

	Levene Statistic	df1	df2	Sig.
Environmental Responsibility	1,592	2	694	**,204**
Attitude towards Green Advertisements	4,240	2	694	**,015**

Table 23 ANOVA on Educational Status

		Sum of Squares	Df	Mean Square	F	Sig.
Environmental Responsibility	Between Groups	1,036	2	,518	1,470	**,231**
	Within Groups	244,568	694	,352		
	Total	245,604	696			
Attitude towards Green Advertisements	Between Groups	5,195	2	2,597	6,590	**,001**
	Within Groups	273,528	694	,394		
	Total	278,723	696			

Table 24 Post Hoc Tests (Games-Howell) - Multiple Comparisons for Attitude towards Green Ads.

(I) education	(J) education	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	,02826	,06159	**,891**	-,1170	,1735
	3,00	,24320*	,07079	**,002**	,0764	,4100
2,00	1,00	-,02826	,06159	**,891**	-,1735	,1170
	3,00	,21494*	,05661	**,001**	,0815	,3484
3,00	1,00	-,24320*	,07079	**,002**	-,4100	-,0764
	2,00	-,21494*	,05661	**,001**	-,3484	-,0815

*. The mean difference is significant at the 0.05 level.

ANOVA was conducted with the participation of individuals between 17-38 years old in order to determine whether the factors of environmental responsibility and attitude towards green advertisements show a significant difference according to the age variable. The age distribution was grouped as 17-24, 25-31, and 32-35. According to this analysis, it is seen that the ratio of environmental product preference of individuals between 17-25 years of **age** is different from other age groups. As a result, the H5.1 hypothesis of the study (there is a significant relationship between the age and environmental responsibilities of consumers) is supported. However, no statistically significant difference was found between age and attitude towards the green advertisement. Based on this finding, the H5.2 hypothesis (there is a significant relationship between the age of consumers and their attitudes towards green advertising) is rejected.

Table 25 Test of Homogeneity of Variances on Age Variables

	Levene Statistic	df1	df2	Sig.
Environmental Responsibility	,977	2	694	**,377**
Attitude towards Green Advertisements	7,622	2	694	**,001**

Table 26 ANOVA Test on Age Variables

		Sum of Squares	df	Mean Square	F	Sig.
Environmental Responsibility	Between Groups	5,107	2	2,554	7,369	**,001**
	Within Groups	240,497	694	,347		
	Total	245,604	696			
Attitude towards Green Advertisements	Between Groups	,486	2	,243	,606	**,546**
	Within Groups	278,237	694	,401		
	Total	278,723	696			

Table 27 Post Hoc Tests (Games-Howell) - Multiple Comparisons for Environmental Responsibility

(I) 155	(J) 155	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	,17638*	,05553	**,005**	,0458	,3070
	3,00	,20343*	,05725	**,001**	,0687	,3381
2,00	1,00	-,17638*	,05553	**,005**	-,3070	-,0458
	3,00	,02705	,05233	**,863**	-,0960	,1501
3,00	1,00	-,20343*	,05725	**,001**	-,3381	-,0687
	2,00	-,02705	,05233	**,863**	-,1501	,0960

*. The mean difference is significant at the 0.05 level.

A significant relationship was also found between **income** and environmental responsibility. Based on this information, H6.1 (there is a significant relationship between household income and environmental responsibility of consumers) is supported. Furthermore, as per pos-hoc test, we see the people who earn more than 1000 TL and 2000 TL have different environmental responsibility than the others. On the other hand, people who earn more than 5000 TL do not have different environmental responsibility than people who earn less than 1000 TL.

A significant difference was not found between the sub-dimensions of attitude towards green advertisement and income variable. According to Table 28, sig value is recorded higher than 0, 05. Based on this information, the H6.2 hypothesis (there is a significant relationship between household income and attitudes towards green advertising) is not supported.

Table 28 Test of Homogeneity of Variances on Income Status

	Levene Statistic	df1	df2	Sig.
Environmental Responsibility	5,043	3	693	**,002**

Table 29 ANOVA Test on Income Status

		Sum of Squares	df	Mean Square	F	Sig.
Environmental Responsibility	Between Groups	9,554	3	3,185	9,349	**,000**
	Within Groups	236,051	693	,341		
	Total	245,604	696			

Table 30 Post Hoc Tests (Games-Howell)-Multiple Comparisons for Environmental Responsibility

(I) income	(J) income	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1,00	2,00	,35747*	,09486	**,002**	,1099	,6050
	3,00	,17354*	,05754	**,015**	,0249	,3222
	4,00	-,01390	,06252	**,996**	-,1754	,1476
2,00	1,00	-,35747*	,09486	**,002**	-,6050	-,1099
	3,00	-,18393	,08883	**,171**	-,4167	,0488
	4,00	-,37137*	,09213	**,001**	-,6122	-,1305
3,00	1,00	-,17354*	,05754	**,015**	-,3222	-,0249
	2,00	,18393	,08883	**,171**	-,0488	,4167
	4,00	-,18744*	,05292	**,003**	-,3241	-,0508
4,00	1,00	,01390	,06252	**,996**	-,1476	,1754
	2,00	,37137*	,09213	**,001**	,1305	,6122
	3,00	,18744*	,05292	**,003**	,0508	,3241

*. The mean difference is significant at the 0.05 level.

Table 31 Test of Homogeneity of Variances for Attitude towards Green Advertisements on Income Status

Levene Statistic	df1	df2	Sig.
3,159	2	694	,**043**

Table 32 ANOVA for Attitude towards Green Advertisements on Income Status

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1,022	2	,511	1,278	**,279**
Within Groups	277,700	694	,400		
Total	278,723	696			

5 Results and Discussion

In this study, a survey was conducted with 200 consumers from the Marmara region in order to determine environmental responsibility and the attitudes of consumers towards green advertisements according to their level of environmental responsibility.

Firstly, it was examined whether consumers' attitudes towards green advertising differ according to their low and high environmental responsibilities. Accordingly, it was found that consumers with high environmental responsibility had more positive attitudes towards green advertisements than consumers with low environmental responsibility. Also, the relationship between the sub-dimensions of the environmental responsibilities of consumers and their attitudes towards green advertisements according to various demographic characteristics was discussed.

As per the result of the study, gender does not affect both the environment responsibly and attitudes towards green advertisements. Although participants age scale close to each other (between 17-38 years old), it is clear that 17-25 years old participants more responsible for the environment than other groups. Also, single people are more responsible in term of environmental issues and more sensitive about it.

It was revealed that the income and education characteristics of the consumers are important variables in terms of both responsible environmental behaviours and positive attitudes towards green advertisements. High educated people have different responses to green advertisements than other groups. However, results do not prove that education level has a significant role in the environmental responsibility of consumers. Furthermore, the income level of consumer differentiates the groups based on environmental responsibility. The common belief about income is that, as individuals' income increases, their environmental responsibilities are improved because they can choose green products with higher costs than other products.

On the other hand, results show that the middle class have a different perspective on environmental responsibly. In the meantime, low class and high-class consumers act the same way against environmental issues. Thus it is not accurate to say that people who have low income and high income are not responsible for environmental issues. Because of these

complex results at the income level, this situation should be clarified with more data and will be explained in future researches.

6 Conclusion and Recommendation

Many environmental problems of human origin have reached a level that threatens human life. As a result, especially young people who are aware of the increasing environmental problems exhibit more responsible behaviours towards environmental problems. Increasing environmental responsibility among consumers, institutions and organisations frequently accused of the emergence of environmental problems have started to act towards the environment. Environmental activities of institutions and organisations have led to green marketing and green advertisements at the micro-level.

Green advertisements are an essential communication tool for institutions and organisations to announce their environmental products, services and activities to consumers. Furthermore, green advertisements that are put forward with real environmental awareness provide solutions to environmental problems and remind consumers of their environmental responsibilities. Demonstrating the attitudes of consumers towards green advertisements in line with their environmental responsibilities is important to reveal the effects of green advertisements against environmental problems.

In the coming years, regardless of product and service, environmentalism is moving towards a reality that marketing strategies cannot be ignored. It is no longer possible for overall society to remain indifferent to environmental problems, especially global warming. The rapid increase in people's interest and awareness of global warming also strengthens this forecast. People buy and love green brands because they believe they are environmentally friendly. Those type of companies is successful because they can deliver sustainability along with standard commercial quality.

In order for companies to form green marketing values, the environmental status of all functional units that affect the eco quality of the final product, such as design, supply and production, must be considered. Firstly, the unconscious consumption of energy resources is one of the biggest problems. Because all energy sources are not unlimited except, solar energy, wind energy, biogas energy, concordantly, enterprises can produce biogas by using organic wastes in animal husbandry. This system saves energy, reduces the greenhouse effect by preventing pollution in nature, and can also be used for electricity generation and heating.

Secondly, the lack of wastewater treatment system of most small enterprises poses a threat to nature. Factory wastes can be controlled by installing these plants in the same location and connecting them to a single treatment system. It was also noted that some cheese producing enterprises discard the whey. The whey can be used to convert it into milk powder, and the whey, which damages the environment, is used in different areas. Collaboration can be made with TetraPak (2015), which has invested in new technology and sustainability. For example, with OneStep processing technology, milk production can be made more efficient by allowing producers to produce ultra-high-temperature (UHT) milk from milk powder in one continuous process.

ESL (Extended Shelf Life) applications should be expanded in Turkey. In this technology, the system allows milk bacteria to be separated from milk at low temperature and provides longer shelf life when stored below 8 ° C. ESL technology, instead of the traditional pasteurisation process, using microfiltration process, the product prevents excessive heat treatment, preserves the flavor and nutritional value of milk.

Besides, different packaging must be used in the dairy sector. Different environmentally friendly packaging studies should be carried out with recycled carton packaging and box design used in milk packages. Green, eco-friendly logos should be put on the product packaging of the green companies can contribute to the increase in demand by raising awareness for consumers.

As a result, sustainability must be at the basis of every successful business. By reducing waste and energy consumption, companies can reduce costs and can search for environmental solutions across the entire production line. Furthermore, green economy practices give enterprises a competitive advantage. It should be noted that green consumers do not only buy a green product, but also a green image of the business. Therefore; the manufacturer of the green product, the organisation, should ensure that all other activities are green. If the green processes do not apply simultaneously as a whole, the message can provide minimum reliability on the customer side, and at the same time, the company is constantly at risk of being criticised by different groups. Finally, I recommend that researchers in the field of the green economy should expand their work in all sectors and carry out studies on larger sample size.

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8 Appendix

Diploma Thesis Survey

Name:

- Sex:
- Age:
- Educational Status:
- Marital status:
- Income:

Please rate the following questions on a scale from 1 to 5, with 5 being "strongly agree" and 1 being "strongly disagree."

I attend the meetings of an organization that aims to improve the environment.

1	2	3	4	5

I often subscribe to publications on environmental issues.

1	2	3	4	5

I understand what environmental expressions and symbols in product packaging mean.

1	2	3	4	5

I think I know a lot about environmental issues.

1	2	3	4	5

I'm aware of the recycling opportunities in my area.

1	2	3	4	5

I make a special effort to buy environmentally friendly packaging products.

1	2	3	4	5

I read product labels to see if the product content is safe for the environment.

1	2	3	4	5

Some of the products that I have preferred only because they are safer against the environment.

1	2	3	4	5

I changed my preference for many products for environmental reasons.

1	2	3	4	5

I closely monitor the steps taken by lawmakers - legislators on environmental issues.

1	2	3	4	5

I am very concerned about how climate change will affect future generations.

1	2	3	4	5

I am willing to use bicycle or public transport to reduce air pollution.

1	2	3	4	5

Recycling is difficult for me to do.

1	2	3	4	5

Even if everyone saves energy at home, this does not have a significant impact on energy consumption.

1	2	3	4	5

Protecting the environment is not my business; it's the government's duty.

1	2	3	4	5

It scares me to think about our food related to the danger of environmental waste.

1	2	3	4	5

I'm pissed when I think industrialization is damaging to the environment.

1	2	3	4	5

I contact the authorities regularly about what I can do to find solutions to environmental problems.

1	2	3	4	5

It's a big deal for me to separate the garbage for recycling.

1	2	3	4	5

I become a more loyal customer for the environmentally friendly products of the companies.

1	2	3	4	5

The Advertisements promoting green products / organizations are important for the community.

1	2	3	4	5

I believe the claims in their green advertising are real.

1	2	3	4	5

Many of the green advertising is insulting people's intelligence.

1	2	3	4	5

I have a positive outlook on green advertising.

1	2	3	4	5

Green advertising shows consumers to focus on consumers' environmental concerns.

1	2	3	4	5

Green advertising is deceptive.

1	2	3	4	5

Green advertising makes products more expensive.

1	2	3	4	5

The institutions behind green advertising are good intentions.

1	2	3	4	5

The environmentally sensitive product / corporate ads exploit the environmental concerns of consumers.

1	2	3	4	5

Environmental product / corporate advertising help solve environmental problems.

1	2	3	4	5