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Innovation in Packaging Design and the Relationship between Consumer Attitude towards Upcycled Packaging Product and Purchase Intention*

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Abstract

The searches for innovation in packaging design have led to the concepts of sustainability and upcycling. The aims of this study are to reveal the importance of innovative upcycling in sustainable packaging design and to determine the consumer intention to purchase products with upcycled packaging. According to survey result of the descriptive research conducted on 392 participants selected by convenience sampling method, it is found that there is a positive relationship between green consumer values, environmental awareness, sustainable packaging awareness, attitude towards sustainable packaging and intention to purchase upcycled packaging products. Moreover, it has also been revealed that when attitude towards sustainable packaging and sustainable packaging awareness are increased, the intention to purchase upcycled packaging products will be also increased. However, it should be considered that price is also important in consumers' purchasing behavior and purchase intentions for upcycled packaging products and ensured that the cost of innovative upcycled packaging designs does not exceed the value provided.

Keywords: *Innovation, packaging design, sustainable packaging, upcycling, upcycled packaging*

Ambalaj Tasarımında İnovasyon ve İleri Dönüştürülmüş Ambalajlı Ürünlerine Yönelik Tüketici Tutumu ile Satın Alma Niyeti Arasındaki İlişki

Öz

Ambalaj tasarımında yenilik arayışları, sürdürülebilirlik ve ileri dönüşüm kavramlarının daha fazla gündeme gelmesine neden olmuştur. Bu çalışmanın amacı, sürdürülebilir ambalaj tasarımında yenilikçi ileri dönüşümün önemini ortaya koymak ve tüketicinin ileri dönüştürülmüş ambalajlı ürün satın alma niyetini belirlemektir. Kolayda örneklem yöntemiyle seçilen 392 katılımcı üzerinde yapılan tanımlayıcı araştırma sonucuna göre; yeşil tüketici değerleri, çevre bilinci, sürdürülebilir ambalaj bilinci, sürdürülebilir ambalaja yönelik tutum ve ileri dönüştürülmüş ambalaj ürünlerini satın alma niyeti arasında pozitif bir ilişki olduğu tespit edilmiştir. Ayrıca, sürdürülebilir ambalaja yönelik tutum ve sürdürülebilir ambalaj farkındalığı arttıkça ileri dönüşümlü ambalaj ürünlerini satın alma niyetinin de artacağı sonucuna varılmıştır. Ancak, tüketicilerin ileri dönüşümlü ambalaj ürünlerini satın alma davranışlarında ve satın alma niyetlerinde fiyatın da önemli olduğu göz önünde bulundurulmalı ve yenilikçi ileri dönüştürülmüş ambalaj tasarımlarının maliyetinin, sağlanan değeri aşmaması sağlanmalıdır.

Anahtar Kelimeler*: Yenilik, Ambalaj Tasarımı, Sürdürülebilir Ambalaj, İleri Dönüşüm, Ambalajda İleri Dönüşüm*

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1. Introduction

Environmental, social and economic developments in the developing and changing world affect consumers and producers directly or indirectly. These changes and developments that increase the quality of life of consumers, make a difference in their lives, and provide social and economic benefits force innovations and improvements in products and services (Altunışık, 2016: 340-341). While the purchasing behaviours and habits of consumers are affected by these changes, businesses try to meet these changes by innovating on all elements of the marketing mix. Junge et al. (2016) define marketing innovations as improved sales channels and distribution patterns, changes in product design and packaging, and the application of new marketing methods. These innovations are generally related to the product, packaging, positioning, marketing communication, and pricing and aim to increase the quality of life of consumers, make a difference in their lives, and provide social and economic benefits. One of the innovations in marketing is innovative packaging and upcycled packaging designs. These innovative designs are important in terms of influencing consumers within the framework of the concept of sustainability. In the conceptual analysis part of this study, the concepts of innovation, sustainability, and innovative and upcycled packaging in marketing were presented, and in the research part, innovative packaging designed with an upcycling perspective, consumers' environmental awareness, green consumer values, sustainable packaging awareness, attitude towards sustainable packaging and intention to purchase with upcycled packaging were examined.

2. Conceptual Framework

2.1. The Concept of Innovation and Innovation in Marketing

Innovation is one of the most important elements that can enable businesses to stay one step ahead of their competitors and help them gain superiority over each other (Bülbül, 2003:114). Innovation is defined in the Oslo Manual as the realization of a new or significantly improved product (good or service), process, a new marketing method, or a new organizational method in internal practices, company organization, or external relations (OECD, 2005). Peter Drucker, on the other hand, expresses innovation as a unique tool in entrepreneurship and sees it as a way of transforming change into opportunity in the service sector. Michael Porter also sees innovation as the possibility of obtaining a competitive advantage based on innovation and the ability of the company to realize innovation projects. According to Freeman, industrial innovation includes innovative commercial activities in the process of technical design, production, management, and marketing of the new product (Stosic and Milutinovic, 2017:26). Marketing innovations consist of changes made in product design and packaging, positioning, marketing communication, pricing, improved sales channels, and distribution patterns, and the implementation of new marketing methods that gained competitive advantages (Elçi, 2007:1; Junge et al., 2016). Marketing innovations also include innovations and developments in product design. The changes in the design include the changes in the form and image of the product, as well as the innovations made in the packaging design of fast-moving consumer goods, in which the packaging is of high importance. Combined improvement and development of product design and packaging design; since it affects both product functions and marketing functions, it is expressed as both product and marketing innovation (OECD, 2005: 58).

2.2. Innovation in Packaging and Packaging Design in Marketing

There are different packaging definitions in the literature. Packaging is a container, wrapper, or container in which the substance or product in the product line is placed, and it is covered or wrapped with a material that protects the content and environment of the product, facilitates its transportation, storage, sale, use, can be partially or completely disposed of in the future or recycled (Tek, 1999:372). Aygün (2007:5) defines it as covering or combining with the product, which integrates with the product and expresses the product it contains in the best way, thus affecting the functions of marketing, providing convenience to consumers both functionally and aesthetically, and when cleverly designed, it can also be used in the promotional activities of businesses.

Today, the packaging is shaped by the design of the product from the product development stage. The idea that packaging has an increasing effect on production costs is gradually becoming a thing of the past. The design of the packaging according to the needs and wishes of the market and customers, and its involvement in every phase from the production stage to protection, storage, transportation, distribution, advertising, sales, and end use shows that the product is an inseparable part (Aygün, 2007). In short, the packaging is not only a tool that protects the product inside, but integrates with the product (Üçüncü, 2000:4).

With the technology developing, the packaging is also produced using different techniques. A creative and innovative packaging design produced using new techniques can add many aesthetic and functional values to the product. Consumers can pay more for these values. Aware of this situation, many companies in different sectors attach great importance to packaging designs that integrate with the product as well as product designs (Şen, 2007:3). When the packaging and its functions, which are an integral part of the product, are designed by considering the useful functions of the product, the functions of both the packaging and the product will be integrated with maximum benefit for the customer.

2.2.1. Packaging Design and Functions of Packaging Designs

Packaging can be examined in 3 different groups. The packaging is defined as (i) the packaging that meets the product, the primary packaging or the inner packaging, (ii) the containing the inner packaging in different sequences and quantities, the secondary packaging or the outer packaging, (iii) the packaging that is used only for transporting the products, the loading packaging or the transport packaging. Primary packaging and secondary packaging are the packaging that first interacts with the consumer, and they have the potential to influence the purchasing behaviour of consumers. The functions of packaging are examined as protection, convenience, price adjustment, communication, and visual functions (Aygün, 2007:8). Different views on the functions of product packaging are presented in Table 1.

Table 1. Approaches to the Function of Product Packaging

Author	Author's View on the Functions of Packaging
Brennan et al. (1990)	It is a marketing tool that helps the product process and transfer, provides convenience, protects the product, and also saves costs.
Copley (2004)	It is a link that expresses the brand identity of the product, creates a strong visual with a tractive design, increases the value of the product, and also provides a connection with the consumer as a reminder of the brand.
Blythe (2005)	It is a communication tool that provides information on how to use the product and provides legal information.
INCPEN	It is a tool that protects products from all kinds of impacts, provides safety and hygiene, gives a message to consumers, and also allows consumers to make choices.
Grundey (2010)	Promoting and selling the product, Promoting and positioning the brand identity, Providing all kinds of legal and content-related information with the help of symbols and labels, Meeting the needs of the consumer with the help of different features such as size and shape, Providing convenience in the process and transportation, prevent food spoilage, Recyclable, environmentally degradable and ecological and less wasteful, It is a tool that can be used even for slogans for social or political reasons.

Source: Grundey (2010: 87-103).

It is seen that the functions of packaging are expressed with different concepts in the literature and different values have been added to these functions over the years. These different values, which are usually added in terms of social and economic aspects, are also related to the definition of brand identity, such as packaging providing prestige or being a status indicator. Apart from this, the creation of innovative packaging designs that fulfill all their functions with an innovative attitude, taking into account consumer-oriented and environmental values, will contribute to achieving a sustainable environmental target.

2.2.2. Innovative Packaging Designs

It is expected that the marketing strategies, vision, and core values of the enterprises and the packaging strategies will be in the same direction (Kotler, 1988:284, cited in Erkınay, 1996:14). Packaging has different effects on the components of the marketing mix. Market segmentation can be made at the same time using innovative packaging designs, the amount and dimensions of the product can be determined, and in connection with this, the packaging can affect the final price of the product. The effect of packaging on the promotional function of the marketing mix is through the functions of communication and information. The protection, transportation, and storage of the packaged products during shipment shows the effect of the marketing mix on the distribution function. By changing and improving the functional and aesthetic properties of the packaging, which can affect different functions of the marketing mix, product performance can be increased by making creative packaging innovations. By changing the amount or arrangement of the product stored in the package, transportation innovations that provide extra security can be given (Arköse, 2004:113).

According to Geambasu (2017), the first interaction between customers and products is through packaging. Packaging designs and labels have also changed over the years, by being affected by the rapid development of technology and changes in society. Over the years, efforts to increase sales have been supported by attracting the attention of customers with high-quality packaging and creative label designs. According to Venter (2011), packaging also defines the

quality of the product. High-quality packaging design attracts attention and provokes the customer to purchase, and the label affixed to the packaging helps customers make a purchasing decision. According to Padki (2008), consumers are becoming more conscious about the benefits of purchasing decisions they take with a sense of responsibility towards the environment. The modern consumer is more aware of the direct impact of their purchasing behavior and social responsibilities on the environment and they are concerned about this. According to Scott (2014), green marketing strategies, including green packaging, can positively affect consumers' purchasing decisions. Holdway (2002) determined that consumers are increasingly hostile towards packaging that is harmful to the environment, misleading, and difficult to use, and they are more aware of the ecological and social effects of the products they use. Kim and Seock (2009) found that more environmentally conscious female consumers place higher value on recyclable and biodegradable beauty product packaging. Increasing awareness of consumers encourages organizations to respond to the environmental needs of consumers and to develop green product packaging.

2.3. Packaging and Sustainability

Scientists, in the early 70s, stated that serious dangers would be inevitable in the next hundred years if the increases in world population, industrialization, pollution, food production, and resource depletion were continued (Bridgens et al., 2018). Climate change, acidification, smoke, toxins, waste, and resource depletion, which are the consequences of industrialization, are the focal points of the hazards. Over the years, it has become more important to minimize all these environmental effects and to create a clean and livable environment (Ferrara, 2019).

Sustainability was expressed as sustainable development in conjunction with the term development in the Brundtland Report titled “Our Common Future” prepared by the United Nations World Commission on Environment and Development in 1987 (Erman, 2019). In the report, sustainable development is defined as meeting the needs of the present without compromising the ability of future generations to meet their own needs (Yücel, 2016). This definition states that current economic development will not make the economic situation of future generations worse than it is today (WCED 1987:40, cited by Şen et al., 2018:3).

The concept of sustainability means that there is a balance between natural resources and needs. This concept has come to the fore with the concern that this balance will be damaged in a way that will consume natural resources and this will bring bigger problems over the years. With the expression of the concept of sustainable development, sustainability has gained a multidimensional meaning. It is stated that this concept was created because of an environmentally friendly growth/development effort to raise awareness against environmental problems caused by growth and development (Şen et al., 2018: 42).

The priority of the European Union within the scope of reducing waste pollution and protecting the natural environment is to prevent the production of packaging waste. This priority is supported by some additional key principles. These are packaging reuse, recycling, and other forms of packaging waste recovery and ultimately the eventual elimination of such waste (Potincu et al., 2018). According to SPA (Sustainable Packaging Alliance), the sustainability of packaging can be evaluated in different ways. SPA was established in 2002 in Australia through the Packaging and Polymer Research Unit. Its purpose is research, industry involvement, and the development of practical strategies for the packaging industry, thereby enabling continuous improvement in packaging's environmental performance and sustainability. To avoid transferring problems from one part of the lifecycle to another, packaging; states that the whole life cycle from raw material to recycling should be taken into

account and all interactions with the product it contains should be evaluated in order to minimize its impact on the environment and human beings (James et al., cited in Sonneveld et al., 2005).

Sustainable packaging is an idea that needs to be addressed with a systemic approach. The four principles of sustainable packaging were first defined by SPA under the headings of "effective", "efficient", "cyclic" and "safe". These are phrased with terms such as "reduces product waste" and "improves functionality" to highlight the fact that sustainability is a continuous improvement process rather than a predetermined endpoint (Lewis et al., 2007:3).

Table 2. Definition of Sustainable Packaging by SPA (Sustainable Packaging Alliance)

Principles	**Explanation**	**Applied Level**
Effective	Adds real value to society by supporting conscious and responsible consumption and by effectively protecting and containing products in the supply chain.	Society
Efficient	Packaging systems are designed to use materials and energy as efficiently as possible throughout the product's lifecycle.	Packaging System
Cyclic	Packaging materials are constantly translated into natural and technical systems through material reduction and additive development.	Packaging Material
Safe	Packaging parts do not pose a risk to human health and the ecosystem.	Packing Parts

Source: James et al. (2005).

Considering the product life cycle, green consumers also do not want the product and packaging to become waste, and some sensitive consumers and companies can offer alternative solutions and creative works. This concept, which also contributes to reducing the amount of waste by prolonging the product life, is upcycling. It is important to evaluate upcycling both on an industry basis and on an individual consumer basis.

2.4. Upcycling and Packaging

The concept of upcycling first emerged in 1994, in an interview conducted by journalist Thornton Kay with German entrepreneur Reiner Pilz (Kay, 1994, cited in Jiangxu, 2015). In 1999, two German authors, Gunter Pauli, and Johannes F. Hartkemeyer, published a book called "Upcycling". Later, in 2002, William McDonough and Michael Braungart explained the concept of "upcycling" in the book Cradle to Cradle: Remaking the Way We Make Things, which aroused great interest in the academic community (Bridgens et al., 2018). They stated that the purpose of upcycling is to avoid wasting potentially useful materials by using existing ones to reduce new materials and energy consumption, air and water pollution, and even greenhouse gas emissions (Jiangxu, 2015).

Upcycling is one of the most important research areas today. For example, Satheesan (2021) examined the case study of a project to give a second life to packaging in the context of washing machine packaging in India and analyzed the concept of upcycling within the framework of rethinking the life cycle of appliance packaging. Jung et al. (2023) explained the importance of developing new technologies to increase recycling and upcycling efficiency due to the rapid increase in global plastic production, summarized the latest developments to increase plastic recycling/upcycling efficiency, and emphasized the production of higher performance materials from input plastic waste and improved recycling. Finally, researchers stated that the plastic waste problem can be solved for current and future generations by developing new Technologies for recycling and upcycling.

The sustainability dictionary defines the concept of upcycling, a term coined by William McDonaugh and Michael Braungart, as the process of transforming an industrial material into something similar or more valuable in its second life. Upcycling appears in these definitions as a promising tool to reduce energy and material use (Sustainability Dictionary, 2023). Szaky (2014), on the other hand, sees product upcycling as one of the most sustainable solutions in the waste hierarchy positioned between reuse and recycling because recycling typically requires very little energy input and can eliminate the need for a new product.

According to Gouda (2019), upcycling is the process of transforming otherwise useless or unwanted material into a product of higher perceived value or quality using creative inputs. The process creates products with higher aesthetic value and longer use; thus, it is innovative and less energy-consuming to achieve a cradle-to-cradle approach to trade associated with a circular economy (Gouda et al., 2019).

Upcycling significantly reduces the impact on the environment compared to the recycling process. Gauda (2019) states that upcycling is distinctly different from recycling and states that recycling is the separation of used products or waste materials into components using significant amounts of water and energy to process them and convert them to form a different product (Gouda et al., 2019).

According to Sung (2017), increasing the upcycling activity, in theory, extends the life of used materials, components, and products and reduces the buried energy consisting of the energy in the extraction, transportation and processing of the raw material that makes up a product, and the direct and indirect energies spent in the production and assembly of product components (Özçuhadar, 2007:39), and contributes to the reduction of carbon emissions (Sung, 2017:3). Often, recycled products are of lower quality than the main product, as they undergo a change in their physical form and properties.

Most of the component activities of upcycling depend on reverse supply chains. Like recycling, the upcycling process begins with waste collection and reverse logistics. Next, the collected material is sieved, sorted, and cleaned. Once the material is ready to use, an upcycler finds an innovative way to use it. This creative process adds value to the upcycled product and determines its sales potential (Gouda et al., 2019). Therefore, upcycling as improved recycling replaces the linear process of 'cradle to grave' (or build-use-dispose) through material reuse in continuous cycles, eliminating the concept of waste and reducing toxic substances in the biosphere.

Upcycling is a viable option for municipal solid waste recovery, especially in unorganized waste management scenarios where conventional waste recovery options are not efficient. Unlike standardized industrial production, upcycling is highly dependent on the quantity and quality of discards and relevant stakeholders. Upcycling at the product level also eliminates the need for a new product (Szaky, 2014), which means reducing the use of raw materials (material efficiency) and industrial energy for production, and ultimately reducing greenhouse gas emissions (Cooper et al., 2016:56). New designs are required for every new upcycle, and practitioners face uncertainties to develop a design solution. Especially when it comes to developing and underdeveloped countries, recycling, biodegradation, storage, incineration, etc. Upcycling is a more appropriate option when other waste management techniques such as waste management are not efficient (Khan et al., 2018:29). Wilson (2016) argues that when consumers transform their products, adding a new use and function to them when their life is over, they will not need to buy another product with the same function. Thus, the benefits of upcycling to the consumer are outlined in the table below.

Table 3. Consumer Benefits of Upcycling

Aesthetic Appeal	The consumer enjoys the nostalgic, antique, or retro look of upcycled products.
Economic Savings	Instead of purchasing a new product, the consumer takes advantage of the economic advantage of recycling the product's waste for another use.
Environmental Benefits	The consumer provides an environmental benefit by using the product for another purpose instead of putting it in the waste category.
Intrinsic Enjoyment	The consumer enjoys the processes of converting, replacing, and harmonizing waste.

Source: Wilson (2016: 7).

Sustainability of packaging, upcycling of packaging, and eco-packaging concepts are used by a small number of businesses in different sectors in their marketing strategies with an innovative packaging design approach, thus making businesses different from their competitors. The concept of upcycling, which reduces the environmental impact by extending the life of packaging waste and making it sustainable, is not yet widely used as a marketing strategy in the packaging industry. However, there are studies showing that sustainable innovative packaging designs affect the consumer positively at the time of purchase. The fact that the product packaging is included as a component in the marketing mix and that the packaging can affect the purchasing behavior by affecting the promotional function with an innovative design approach reveals the idea that the packaging designed with the concept of upcycling can also positively affect the consumer purchasing behavior. As the packaging assumes a new function that will benefit the product it contains, and/or acquires a secondary function after its lifetime is complete, (1) the lamp packaging turns into a lighting fixture, (2) the cup packaging turns into a coaster, (3) wine packaging that turns into a wine set and (4) metal frame packaging that turns into a cat house are presented in the study of Arslan and Barutçu (2019). At the stage of upgrading the packaging, it can also enable the packaging to interact with the consumer as a new product and provide a new user experience to the consumer.

3. Determine the Relationship between Consumer Attitude to Upcycled Packaging Design and Purchase Intention

3.1. Purpose of the Research

Today, the importance of environmental values and leaving a better world to future generations is increasing. At this point, taking into account the environmental awareness and green consumer values of the target customer groups, determining the effect of consumers' attitudes towards environmental awareness and sustainability on their intention to purchase upcycled packaging product are important for businesses that aim to develop new approaches in product and packaging designs and use sustainable packaging. The main objectives of the research as follows; (1) determine consumers' awareness of the environment and sustainable packaging, (2) reveal the relationship among green consumer values, environmental awareness, sustainable packaging awareness and purchasing behavior of upcycled packaging products, (3) analyze the relationship between the attitude towards the upcycled packaging products, green consumer values, sustainable packaging awareness and intention to purchase product with upcycled packaging.

3.2. Research Methodology

Descriptive research was designed to determine the consumer attitude and purchase intention towards the upcycled packaging product and to test the alternative hypotheses stated below.

The internet survey method was used as the data collection method. Survey questions like expressions in the green consumer values scale were adapted from Haws et al., (2010) and Uyar (2019), environmental awareness scale, sustainable packaging awareness scale and attitude towards sustainable packaging scale were adapted from Bohlen et al., (1993), Karaca (2013) Övüç (2015) and Çınar (2017), and the scale of packaging characteristics were adapted by Erkınay (1996) and Aygün (2007), and the expressions on intention to purchase a product with upcycled packaging scale were created by researchers. The research was designed under previous studies listed above, and the following alternative hypotheses were tested in this research as:

H1: There is a positive relationship between green consumer value and environmental awareness, sustainable packaging awareness, attitude towards sustainable packaging, purchasing intention to the upcycled packaging product.

H2: There is a positive relationship between environmental awareness and sustainable packaging awareness, attitude towards sustainable packaging, intention to purchase product with upcycled packaging.

H3: Sustainable packaging awareness positively influences intention to purchase product with upcycled packaging.

H4: Green consumer values positively influences intention to purchase product with upcycled packaging.

H5: Attitude towards sustainable packaging positively influences intention to purchase product with upcycled packaging.

The questionnaire form prepared to test these alternative hypotheses consists of two pages. On the first page, the concepts of upcycling and packaging that can be recycled are explained and 3 different packaging designs with the upcycling feature of 3 different products are presented. On the second page, a total of 40 questions were prepared in 7 separate sections regarding the demographic characteristics of the participants, packaging perception, green consumer values, environmental awareness, sustainable packaging awareness, attitude towards sustainable packaging and Intention to Purchase Product with Upcycled Packaging, and after the pilot study conducted on 10 people, questionnaires were made ready for implementation.

The main target group of the research consists of consumers who perform their purchasing behavior in Turkey. Since it was not possible to reach all individuals, an online questionnaire was applied to 392 participants who were reached by convenience sampling method. All data collected by the survey method were analyzed in the SPSS 26.0 program. 2 questions in the questionnaire were asked as negative control questions and 30 people were excluded from the analysis due to inconsistent answers, the reverse coded questions containing negative statements were changed to positive again and 362 questionnaires were evaluated. The Cronbach Alpha coefficient was used to evaluate the reliability of the scale variables created within the scope of the research, and the Cronbach Alpha coefficient was calculated as 0.905 and it was determined that the research results were consistent. In the analysis of the data, frequency distribution for the questions prepared on the nominal scale, descriptive statistics for the questions prepared on the interval scale were given, and correlation and regression analysis were used in the tests of the hypotheses.

3.3. Findings of the Research

Demographic characteristics of the participants participating in the research are presented in Table 4. According to this, 58.8% of the participants were female and 41.2% were male; It was determined that 60.2% received undergraduate education, 37.3% were in the 31-40 age group, and 31.8% had a monthly income of 2501-5000 TL.

Table 4. Demographic Characteristics of Participants

Gender	**N**	**%**	**Age**		
Female	213	58.8	< 20	19	5.2
Male	149	41.2	21-30	129	35.6
Total	362	100	31-40	135	37.3
Education	**N**	**%**	41-50	46	12.7
Primary School	7	1.9	> 51	33	9.1
High School	36	9.9	Total	362	100
College	19	5.2	**Monthly Income**	**N**	**%**
Undergraduate	218	60.2	< 2500 TL	50	13.8
Graduate	82	22.7	2501-5000 TL	115	31.8
Total	362	100	5001-7500 TL	99	27.3
			> 7501 TL	98	27.1
			Total	362	100

When Table 5 is examined, it is seen that the participants' perceptions of the packaging features were measured. The perception that the packaging should protect the product ($\bar{x}$=4.62) is the highest, the visual beauty of the packaging is less important than the others for the participants ($\bar{x}$=3.38). Accordingly, it has been concluded that it is important for the packaging to have environmentally friendly and recyclable packaging after the protection, storage and providing information functions of the products.

Table 5. Descriptive statistics of Packaging Properties Perception

Packaging Properties		**$\bar{x}$**	**SS**
1.	Product protection (Protecting the product from external factors)	4.6271	0.54862
2.	Storing the product (Preserving the product for next use)	4.5138	0.63252
3.	Easy to use (Easy-open lid, use of carrier handle, etc.)	4.4144	0.63996
4.	Environmental friendliness (use of environmentally friendly materials, recyclable)	4.4254	0.69920
5.	Being recyclable (reusing the packaging for a different purpose)	4.2438	0.77558
6.	Attractive color and shape (Visual beauty of packaging)	3.3867	1.22062
7.	Not in a way that will increase the price of the product	4.1547	0.92269
8.	Being informative about the product (Having information on use and storage)	4.5055	0.68318

Descriptive statistics about green consumer values, environmental awareness, and sustainable packaging awareness level of the people participating in the research are presented in Table 6. When Table 6 is examined, the average of the answers given to the statements regarding green consumer values is above ($\bar{x}$=3.8) in general. Participants are prone to purchasing environmentally friendly products to protect the environment, they believe that they can protect the environment by purchasing environmentally friendly products ($\bar{x}$=4.32), they see themselves as individuals with environmental responsibility ($\bar{x}$=4.25), it has been concluded that the participants maintain their green consumer values in their daily environmental actions.

Table 6. Descriptive statistics of Green Consumer Values, Environmental Awareness and Sustainable Packaging Awareness of Participants

	Green Consumer Values	**x̄**	**SS**
1.	I think I can protect the environment by purchasing environmentally friendly products.	4.3232	0.75391
2.	I consider the potential impacts of my daily life on the environment.	4.2790	0.71164
3.	When choosing a product, I take into account the environmental pollution it may cause.	3.9033	0.89569
4.	I describe myself as an environmentally responsible person.	4.2569	0.76471
5.	I use my own bag instead of shopping bags.	3.8978	1.08019
6.	I want to go to the trouble for environmentally friendly activities.	4.1215	1.00229
	Environmental Awareness		
1.	Global warming is a factor that threatens natural life.	4.7624	0.51988
2.	Pollution of drinking water is a factor that threatens human life.	4.8591	0.38610
3.	I turn off the appliances in the house so that they do not work in vain.	4.6077	0.60078
4.	I pay attention to the use of water while doing my personal care.	4.3812	0.72432
5.	Environmental issues matter to me.	4.5028	0.95392
6.	I contribute to recycling by separating the garbage and throwing it away.	3.8204	1.10568
	Sustainable Packaging Awareness		
1.	Before purchasing products, I try to gather information about the effects of products on the environment.	3.2072	1.02255
2.	In my decision to purchase the product, the statements and symbols on the packaging regarding the environmental friendliness of the packaging are important to me.	3.5497	0.99529
3.	In my decision to purchase the product, the statements and symbols on the packaging that the product is not tested on animals are important to me.	3.7210	1.08224
4.	In my decision to purchase the product, the statements and symbols on the packaging that the packaging is recyclable are important to me.	3.7376	1.02877

In general, the average of the answers given to the statements about environmental awareness is high. Participants believe that global warming threatens natural life ($\bar{x}$=4.76), pollution of drinking water endangers human life ($\bar{x}$=4.85), cares of environmental issues ($\bar{x}$=4.50), but they have lower contribution to recycling by separating the garbage and throwing it away ($\bar{x}$=3.82). In general, the average of the answers given to the statements regarding the sustainable packaging awareness of the participants is high, but less than green consumer values and environmental awareness. The fact that the packaging is environmentally friendly ($\bar{x}$=3.54), and the packaging is recyclable ($\bar{x}$=3.73), which is expressed to the consumer by the statements and symbols on the packaging, are important for the participants. However, it was concluded that the participants did not make a great effort to collect information about the environmental effects of the product before purchasing the product ($\bar{x}$=3.20), that the participants gave importance to the statements on the packaging but did not want to go into the effort of collecting extra information about the environmental effects of the product.

Descriptive statistics regarding the attitudes towards sustainable packaging and intention to purchase products with upcycled packaging of the participants in the research are presented in Table 7. When Table 7 is examined, the average of the answers given to the statements regarding the attitudes of the participants towards sustainable packaging is high. Participants believe that sustainable packaging is a solution to prevent the destruction of nature ($\bar{x}$=4.25), businesses should find solutions for the packaging and products used to be recyclable and sustainable ($\bar{x}$=4.48), non-recyclable packaging should be legally limited ($\bar{x}$=4.47), but their attitude towards accepting to pay extra money for products with sustainable packaging ($\bar{x}$=3.69) is lower. Accordingly, it was concluded that the belief of the participants in the positive contributions of sustainable packaging to the nature is quite high, that they think that the state

and businesses should try on this type of packaging, but they expect the expenses to be incurred for these actions to be borne by the state and businesses, not by consumers. In general, the average of the responses given to the statements of the participants' purchasing intention to upcycled packaging product is high.

Table 7. Descriptive statistics of Attitudes towards Sustainable Packaging and Intention to Purchase Products with Upcycled Packaging

Attitude Towards Sustainable Packaging		**x̄**	**SS**
1.	I think that sustainable packaging is a solution to prevent the destruction of nature.	4.2597	0.77993
2.	Non-recyclable packaging should be limited by law.	4.4779	0.71456
3.	Companies should look for ways to develop sustainable products and packaging, even at the expense of increasing costs.	4.4834	0.73004
4.	I agree to pay extra for products with sustainable packaging.	3.6989	1.05550
5.	I accept the collection of taxes by the state for the purpose of investing in sustainable production and packaging technologies.	3.2265	1.33297
Intention to Purchase Product with Upcycled Packaging			
1.	Innovations in product packaging increase my desire to buy.	3.6796	1.09498
2.	I would like to reuse the packaging for other work.	4.2293	0.82208
3.	It will give me pleasure to use a package by upcycling it.	4.2210	0.80909
4.	Before purchasing the product, I would like to know that the packaging is recyclable.	4.0055	0.91765
5.	I prefer the upcycled packaging products, if they are sold similar price.	4.3453	0.77681
6.	I agree to pay extra for products with upcycled packaging products.	3.5304	1.15809

Participants want to know whether the packaging of the product they are going to buy is recyclable ($\bar{x}$=4.00), innovations in product packaging can increase their purchasing intention ($\bar{x}$=3.67), they want to reuse the packaging in other works ($\bar{x}$=4.22) and they will enjoy reusing by upcycling ($\bar{x}$=4.22). Moreover, participants' preference increases if normal and upcycled packaging products are similar price ($\bar{x}$=4.34), however, they are not ready to pay extra price for the upcycled packaging products, and the level of willingness to accept paying extra money ($\bar{x}$=3.53) decreases. Based on these data, it can be commented that the upcycled packaging product design should not increase the price of the product too much to increase the desire to buy. Table 8 shows correlation analysis result to test alternative hypothesis as "H1: There is a positive relationship between environmental awareness and sustainable packaging awareness, attitude towards sustainable packaging, intention to purchase product with upcycled packaging." When the alternative hypothesis was tested, a significant (moderate, positive, r=0.561) relationship between green consumer values and environmental awareness, a significant (moderate, positive, r=0.620) relationship between green consumer values and sustainable packaging awareness. There is also a significant (moderate, positive, r=0.466) relationship between green consumer values and attitudes towards sustainable packaging, and a significant (moderate, positive, r=0.439) relationship between green consumer values and intention to purchase product with upcycled packaging. According to these relationships, the H1 alternative hypothesis was accepted, and it was concluded that there was a positive relationship between consumer values and environmental awareness, sustainable packaging awareness, attitude towards sustainable packaging and intention to purchase product with upcycled packaging.

Table 8. Correlation Analysis between Green Consumer Values and Environmental Awareness, Sustainable Packaging Awareness, Attitude towards Sustainable Packaging, and Intention to Purchase Product with Upcycled Packaging

“		Environmental Awareness	Sustainable Packaging Awareness	Attitude towards Sustainable Packaging	Intention to Purchase Product with Upcycled Packaging
Green Consumer Values	Pearson Correlation	.561*	.620*	.466*	.439*
	Sig. (2-tailed)	.000	.000	.000	.000
	N	362	362	362	362

*Correlation significance level 0.01 (2-tailed).

Table 9 shows correlation analysis result to test alternative hypothesis as “H2: There is a positive relationship between environmental awareness and sustainable packaging awareness, attitude towards sustainable packaging, and purchasing intention to the upcycled packaging product.” When the hypothesis was tested, there was a significant (moderate, positive, r=0.417) relationship between environmental awareness and sustainable packaging awareness, and a significant (moderate, positive, r=0.433) relationship between environmental awareness and attitude towards sustainable packaging.

Table 9. Correlation Analysis between Environmental Awareness and Sustainable Packaging Awareness, Attitude towards Sustainable Packaging, Intention to Purchase Product with Upcycled Packaging

		Sustainable Packaging Awareness	Attitude towards Sustainable Packaging	Intention to Purchase Product with Upcycled Packaging
Environmental Awareness	Pearson Correlation	.417*	.433*	.312*
	Sig. (2-tailed)	.000	.000	.000
	N	362	362	362

*Correlation significance level 0.01 (2-tailed).

There is also a significant (low level, positive r=0.312) relationship between environmental awareness and intention to purchase upcycled packaging products. Based on these results, the H2 hypothesis was accepted, and it was concluded that there was a positive relationship between environmental awareness and sustainable packaging awareness, attitude towards sustainable packaging and intention to purchase upcycled packaging product. Table 10 shows the hypothesis testing of “H3: Sustainable packaging awareness positively influences the intention to purchase product with upcycled packaging”. According to the regression analysis, sustainable packaging awareness (β=0.545; p=0.00<.05) has a positive effect on the intention to purchase product with upcycled packaging. Moreover, the R^2 value of 0.297 indicated that 29.7% of the variance for intention to purchase product with upcycled packaging was explained by the independent variables, sustainable packaging awareness, with a significant F value of 152.281 ($p < 0.000$). For this reason, the H3 hypothesis was accepted, and it was concluded that consumers' awareness of sustainable packaging should be increased to increase the intention to purchase products with upcycled packaging.

Table 10. Regression Analysis for the Effect of Sustainable Packaging Awareness on Intention to Purchase Product with Upcycled Packaging

Dependent	Independent	Beta	t	R	R^2	F	p
Intention to Purchase Product with Upcycled Packaging	Sustainable Packaging Awareness	0.545	12.340	0.545	0.297	152.281	0.000

As seen Table 11, regression analysis shows what extent green consumer values predicts intention to purchase product with upcycled packaging, and test results of "H4: Green consumer values positively influences intention to purchase product with upcycled packaging" hypothesis. According to the regression analysis, green consumer values (β=0.439; p=0.00<.05) have a positive effect on the intention to purchase product with upcycled packaging, and 19,3% of the intention to purchase product with upcycled packaging is explained by the green consumer values as independent variable (R2=0.193, F=86.112). Therefore, hypothesis H4 was accepted.

Table 11. Regression Analysis for the Effects of Green Consumer Values on Intention to Purchase Product with Upcycled Packaging

Dependent	Independent	Beta	t	R	R^2	F	p
Intention to Purchase Product with Upcycled Packaging	Green Consumer Values	0.439	9.280	0.439	0.193	86.112	0.000

As seen Table 12, regression analysis shows what extent attitude towards sustainable packaging predicts intention to purchase product with upcycled packaging, and test results of hypothesis as "H5: Attitude towards sustainable packaging positively influences intention to purchase product with upcycled packaging".

Table 12. Regression Analysis for the Effect of Attitude towards Sustainable Packaging on Intention to Purchase Product with Upcycled Packaging

Dependent	Independent	Beta	t	R	R^2	F	p
Intention to Purchase Product with Upcycled Packaging	Attitude towards Sustainable Packaging	0.624	15.156	0.624	0.390	229.692	0.000

According to the regression analysis, the attitude towards sustainable packaging (β=0.624; p=0.00<.05) has a positive effect on the intention to purchase products with upcycled packaging. Therefore, hypothesis H5 was accepted. Moreover, 39% of the intention to purchase product with upcycled packaging was explained by the attitude towards sustainable packaging as independent variable (R2=0.39, F=229.692).

When considering three regression analysis results, it indicated that all factors (Sustainable Packaging Awareness/Green Consumer Values/Attitude towards Sustainable Packaging) were significant. However, attitude towards sustainable packaging had the strongest effect on intention to purchase product with upcycled packaging using with beta weights (β) of 0.624, with all being significant at $p < 0.000$.

4. Conclusion

Attitude towards sustainable packaging which explains 39% of intention to purchase product with upcycled packaging, and sustainable packaging awareness, which explains 29.7% of intention to purchase product with upcycled packaging are the key point of this research. As

the positive attitude towards sustainable packaging and sustainable packaging awareness are increased, the intention to purchase products with upcycled packaging will also increase even more.

When the results of the research are evaluated in terms of businesses, it is seen that the intention of the participants to purchase products for upcycled packaging is quite high. However, it is seen that the participants have a high belief in the positive contributions of sustainable packaging to nature, and they want the government and companies to try on sustainable packaging. However, participants expect additional costs for these actions to be borne by the government or businesses, not by consumers. At the same time, the potential of participants to prefer products with recyclable packaging from products with similar prices is quite high. However, although the participants have a high potential to prefer this type of product, they are not very willing to agree to pay extra money. Based on these data, it can be commented that the upcycled packaging design should not increase the price of the product too much to increase the desire to buy.

In the literature review, it was concluded that there is a positive relationship between green consumer values, sustainable packaging awareness and environmental awareness and attitudes towards sustainable packaging, as in Övüç (2015)'s research on product purchase intention with sustainable packaging. In Erkınay's (1996) research on the effect of packaging on consumer attitudes in food products, it was concluded that the functionality, ease of use and protection of packaging are more important than aesthetic elements and visual appeal. Similarly, in this study, it was concluded that the features that the participants gave more importance were on the issues of protecting the product, storing the product, and providing information about the product. It has been concluded that the attractive color and shape of the packaging is less important than other functional properties. However, although Erkınay (1996)'s research primarily considers the advantages of the packaging in terms of its functional properties, it can be said that the attractiveness of the packaging and its recognizable quality are also important and are effective in purchasing behavior. In this study, it was concluded that the attractive color and shape of the packaging is similarly more important than the average.

As a result, upcycled packaging design positively affects product purchase intention. It is seen that as consumers' knowledge and needs regarding environmental awareness and sustainability increase, their belief that packaging should be sustainable will also increase. In addition, it has been concluded that the use of upcycling with an innovative perspective in packaging design will contribute to the cyclicality and sustainability of packaging, and will be beneficial for both businesses, consumers and nature. In future research, the relationship between consumer attitude and purchase intention towards upcycled packaging design can be examined on a larger sample and in different countries. In new research, new findings can be reached by determining a specific industry or product category.

References

Altunışık, R., Özdemir, Ş. ve Torlak, Ö. (2016). *Pazarlama ilkeleri ve yönetimi*. Beta Yayıncılık. İstanbul, 339-361.

Arköse O. (2004). *Yaratıcılığa ve yeniliğe yönlendirici örgüt yapısı*. (Yüksek Lisans Tezi), Dokuz Eylül Üniversitesi Sosyal Bilimler Enstitüsü, İzmir.

Arslan, H. ve Barutçu, S. (2019). İleri dönüşümlü ambalaj tasarımlı ürünlere yönelik tüketici tutumu ve satın alma niyeti ilişkisi. *Pamukkale Journal of Eurasian Socioeconomic Studies*, *6*(2), 92-110. https://doi.org/10.34232/pjess.643575

Aygün, E. (2007). Ambalajın tüketici satın alma davranışı üzerindeki etkisi: Gıda maddeleri üzerinde bir araştırma. (Yüksek Lisans Tezi). Sakarya Üniversitesi Sosyal Bilimler Enstitüsü, Sakarya.

Bohlen, G., Schlegelmilch B. ve Diamantopoulos, A. (2010). Measuring ecological concern: A multi-construct perspective. *Journal of Marketing Management*, 9(4), 415-430. https://doi.org/10.1080/0267257X.1993.9964250

Bridgens, B., Powell M., Farmer G., Walsh CL., Reed E., Royapoor M., Gosling P., Hall J. ve Heidrich, O. (2018). Creative upcycling: Reconnecting people, materials and place through making. *Journal of Cleaner Production*, 188, 145-154. https://doi.org/10.1016/j.jclepro.2018.03.317

Bülbül, H. (2003). Rekabet üstünlüğü sağlamada ürün ve süreç yeniliği: Bilişim teknolojileri uygulaması. (Doktora Tezi). Selçuk Üniversitesi Sosyal Bilimler Enstitüsü, Konya.

Cooper, S., Skelton, A.C., Owen, A., Densley-Tingley, D. ve Allwood, J. M. (2016). A multi-method approach for analysing the potential employment impacts of material efficiency. *Resources Conservation and Recycling*, 109, 54-66. https://doi.org/10.1016/j.resconrec.2015.11.014

Çınar, S. (2017). Tüketicilerin yeşil ürün satın alma eğilimlerinin belirlenmesi. (Yüksek Lisans Tezi). Dumlupınar Üniversitesi Sosyal Bilimler Enstitüsü, Kütahya.

Elçi, Ş. (2007). *İnovasyon kalkınmanın ve rekabetin anahtarı*. Meteksan Bilişim Grubu, Ankara.

Erkınay, B. (1996). Gıda ürünlerinde ambalajın tüketici algılaması üzerindeki etkisi. (Yüksek Lisans Tezi). İstanbul Teknik Üniversitesi Sosyal Bilimler Enstitüsü, İstanbul.

Erman, H. (2019). Sürdürülebilirlik kim için? BIST-30 şirketlerinin sürdürülebilirlik raporlarının incelenmesine yönelik nitel bir araştırma. *18. Uluslararası İşletmecilik Kongresi*, 18:2205-2212.

Ferrara G. (2019). Product design and sustainability, https://www.academia.edu/39046105/Product_Design_and_Sustainability_A_few_thoughts_Giulia_Ferrara (04.01.2020).

Geambasu, G. (2017). Packaging Design. Journal of Industrial Design & Engineering Graphics, 12, 21-24.

Gouda, S., Swami, S. ve Ghosh, D. (2019). Upcycling can take sustainable supply chains beyond recycling. *Supply Chain Management Review*, 6-7.

Grundey, D. (2010). Functionality of product packaging: Surveying consumers' attitude towards selected cosmetic brands. *Economics & Sociology, 3*(1), 87-103.

Haws, K., Winterich, K. ve Naylor, R. (2014). Seeing the World Through GREEN-tinted Glasses: Green consumption values and responses to environmentally friendly products. *Journal of Consumer Psychology, 24*(3), 336-354.

Holdway, R., Walker, D. ve Hilton, M. (2002). Eco-design and successful packaging. *Design Management Journal, Former Series*, 13, 45-53.

Jiang, XU ve Ping, GU. (2015). Five principles of waste product redesign under the upcycling concept. *International Forum on Energy, Environment Science and Materials*, 1238-1243.

Jung, H., Shin, G., Kwak, H., Hao, L. T., Jegal, J., Kim, H. J., ... ve Oh, D. X. (2023). Review of polymer technologies for improving the recycling and upcycling efficiency of plastic waste. Chemosphere, 320, 1-15.

Junge, M., Severgnini, B. ve Sorensen, A. (2016). Product-marketing innovation, skills and firm productivity growth. *Review of Income and Wealth Series, 62*(4), 724-757. https://doi.org/10.1111/roiw.12192

Karaca, Ş. (2013). Tüketicilerin yeşil ürünlere ilişkin tutumlarının incelenmesine yönelik bir araştırma. *Ege Akademik Bakış, 13*(1), 99-111.

Khan, A. ve Tandon, P. (2018). Design from discard: A method to reduce uncertainty in upcycling practice. *Design and Technology Education: An International Journal, 23*(2), 129-153. https://eric.ed.gov/?id=EJ1184357

Kim, S. ve Seock, Y. K. (2009). Impacts of health and environmental consciousness on young female consumers' attitude towards and purchase of natural beauty products. *International Journal of Consumer Studies*, 33, 627–638.

Kotler, P. (1988). Marketing Management, 6th ed. Prentice-Hall International, Englewood Cliffs, N.J. USA.

Lewis, H., Fitzpatrick L., Verghese, K., Sonneveld, K. ve Jordon, R. (2007). Sustainable packaging redefined. *Sustainable Packaging Alliance*, 1-26. http://www.helenlewisresearch.com.au/wp-content/uploads/2012/03/Sustainable-Packaging-Redefined-Nov-2007.pdf

OECD (2005). Oslo kılavuzu: Yenilik verilerinin toplanması ve yorumlanması için ilkeler, TÜBİTAK, Ekonomik İş Birliği ve Kalkınma Örgütü.

Özçuhadar, T. (2007). Sürdürülebilir çevre için enerji etkin tasarımın yaşam döngüsü sürecinde incelenmesi, (Yüksek Lisans Tezi). İstanbul Teknik Üniversitesi, Fen Bilimleri Enstitüsü, İstanbul.

Padki, S. (2008). Setting a brand apart through effective sustainable packaging. https://www.packworld.com/machinery/coding-printing-labeling/article/13344368/setting-a-brand-apart-through-effective-sustainable-packaging (15.03.2020).

Potincu, L., Foriş, T. ve Potincu, C. R. (2018). Analysis of packaging and packaging waste management, in the context of sustainable development. *Bulletin of the Transilvania University of Braşov, Series VII: Social Sciences and Law, 11*(2): 155-164.

Satheesan, A. (2021). Designing for second life: Systemic design for sustainable packaging in appliance manufacturing industry. In State-of-the-Art Upcycling Research and Practice: Proceedings of the International Upcycling Symposium, June 2020, Cham: Springer International Publishing, 15-18.

Scott, L. ve Ellis, D. (2014). Consumer understanding, perceptions and behaviours with regard to environmentally friendly packaging in a developing nation. *International Journal of Consumer Studies,* 38, 642-649.

Sonneveld, K., Jame, K., Fitzpatrick, L. ve Lewis H. (2005). Sustainable packaging: How do we define and measure it. 22nd IAPRI Symposium, 1-9.

Stosic, B. ve Milutinović, R. (2017). Key issues to improve innovation project excellence. Key Issues for Management of Innovative Projects, 1-25.

Sung, K. (2017), Sustainable production and consumption by upcycling- understanding and scaling-up niche environmentally significant behaviour. (The Degree of Doctor of Philosophy), Nottingham Trent University School of Architecture.

Sustainability Dictionary (2023) https://sustainabilitydictionary.com/2005/12/04/upcycle/ (25.05.2023)

Szaky, T. (2014). Outsmart Waste. Berrett-Koehler Publisher, San Francisco, https://www.bkconnection.com/static/Outsmart_Waste_EXCERPT.pdf (04.01.2020).

Şen, H., Kaya, A. ve Alpaslan, B. (2018). Sürdürülebilirlik üzerine tarihsel ve güncel bir perspektif. *Ekonomik Yaklaşım, 29*(107), 1-47. http://dx.doi.org/10.5455/ey.39101

Şen, M. (2007). Ambalaja yönelik tüketici tutumları ve bir uygulama, (Yüksek Lisans Tezi), Marmara Üniversitesi Sosyal Bilimler Enstitüsü, İstanbul.

Tek, Ö. B. (1999). Pazarlama ilkeleri, İstanbul: Beta Yayınları.

Uyar, A. (2019). Yeşil satın alma davranışı belirleyen unsurların yapısal eşitlik modellemesi ile incelenmesi. EKEV Akademi Dergisi, 77, 15-34. https://dergipark.org.tr/tr/pub/sosekev/issue/71512/1150326

Üçüncü, M. (2000). Gıdaların ambalajlanması, Ege Üniversitesi Basımevi, İzmir.

Yücel, T. (2016). Sürdürülebilirlik ve kurumsal sürdürülebilirlik kavramının incelenmesi ve muhasebe ile ilişkisi: Teorik bir araştırma. *Kesit Akademi Dergisi (The Journal of Kesit Academy), 2*(5), 158-181.