(Araştırma)

EXAMINING THE EFFECT OF GREEN MARKETING STRATEGIES ON AIRLINE CONSUMERS' PURCHASING BEHAVIOR IN THE SCOPE OF THEORY OF PLANNED BEHAVIOR (TPB)[1]

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ABSTRACT

Environmental problems have been popular among companies to generate a positive image in their potential consumers' minds by implementing greener policies since the green marketing concept emerged. This strategic behavior of companies is also a common practice of airline companies that have been dealing with different environmental issues caused by air transportation to minimize their negative effect on nature. The goal of the study is to measure the impact of the policies generated by airway firms in the context of environmental marketing on the buying behavior of Turkish air passengers. The research basically attempts to modify TPB with two new constructs. The developed research model was analyzed using the Structural Equation Modelling method. The data was obtained from 350 airline passengers with the help of questionnaires distributed online. Research findings show that Environmental Concerns (EC) and Price Fairness (PF) positively affect Attitude (AT), Subjective Norms (SN), and Perceived Behavioral Control (PBC) constructs. AT, SN, and PBC variables are of vital importance in generating purchase intention (PI) with a %60 variance, and it turns into purchase behavior (PB) with a rate of %90. This research advances our knowledge of the impact of airlines' environmental marketing activities on air passengers' buying behavior by proposing a modified research model.

Keywords: Green marketing, Purchase behavior, Tpb Theory.

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TPB TEORİSİNİ KULLANARAK YEŞİL PAZARLAMA STRATEJİLERİNİN HAVAYOLU TÜKETİCİLERİNİN SATIN ALMA DAVRANIŞLARINA ETKİSİNİN İNCELENMESİ

ÖZ

Çevresel sorunlar, yeşil pazarlama kavramının ortaya çıkmasından bu yana şirketler arasında daha yeşil politikalar uygulayarak tüketici potansiyellerinin zihninde olumlu imaj oluşturmak için popüler oldu. İşletmelerin bu stratejik davranışı, hava taşımacılığının doğaya olan olumsuz etkilerini en aza indirmek için hava taşımacılığının neden olduğu farklı çevresel sorunlarla uğraşan havayolu şirketlerinin de ortak uygulamasıdır. Çalışma, havayolu firmalarının çevresel pazarlama kapsamında oluşturdukları politikaların Türk yolcuların satın alma davranışları üzerindeki etkisini ölçmeyi amaçlamaktadır. Araştırma temel olarak TPB'yi iki yeni değişkenle genişletmektdir. Geliştirilen araştırma modeli Yapısal Eşitlik Modellemesi tekniğiyle analiz edildi. Veriler, internet üzerinden dağıtılan anketler yardımıyla 350 havayolu yolcusundan elde edildi. Araştırma bulguları, Çevresel Kaygıların (ÇK) ve Fiyat Uygunluğunun (FU), Tutum (TU), Sübjektif Normlar (SN) ve Algılanan Davranışsal Kontrol (ADK) yapılarını olumlu yönde etkilediğini göstermektedir. TU, SN ve ADK değişkenleri %60 varyansla Satın Alma Niyetinin (SN) oluşmasında büyük önem taşımakta ve bu durum %90 varyansla Satın Alma Davranışına (SD) dönüşmektedir. Bu çalışma, genişletilmiş bir araştırma modeli önererek, havayollarının çevresel pazarlama faaliyetlerinin hava taşımacılığı yolcularının satın alma davranışları üzerindeki etkisinin anlaşılmasına katkıda bulunmaktadır.

Anahtar Kelimeler: Yeşil Pazarlama, Satın Alma Davranışı, Tpb Teorisi

1. Introduction

Green marketing is "*a holistic management process responsible for identifying, predicting, and satisfying the needs of customers and society in a profitable and sustainable way*" (Peattie, 2001, p. 141). In other words, green marketing can be considered both a marketing type and a marketing philosophy. As a marketing type, green marketing functions similarly to industrial or service marketing, focusing on the promotion of a specific product category, such as a green product. It works in parallel with the concept of social marketing as a philosophy. It adopts the view that satisfying customers is not enough and that marketers should consider the ecological interests of society as a whole (Jain & Kaur, 2004). The misuse and scarcity of natural resources lead to environmental problems, diseases, and an increase in death rates. This situation triggered the use of a new concept by companies in the marketing industry called green marketing. Since the 1970s, green marketing has been attracting companies because it not only offers environmentally friendly products and services but also supports sustainable growth and development for themselves. The growing concerns of companies about the environment and limited resources have been researched by scientists for almost 50 years. These studies clearly demonstrate that people have successfully adopted companies' green marketing strategies. Additionally, with the evolution of marketing, having long-term and strong relationships with consumers has become vital for companies to survive, and green marketing activities are one effective way to establish these strong relations with consumers. (Nogueira, 2020).

Green marketing primarily addresses environmental issues arising from industrial developments and growth and seeks solutions to create more environmentally friendly products and services. This makes green marketing a crucial player in the business environment, helping companies determine their marketing strategies. (Maksudunov & Avci, 2020) Implementing green marketing strategies has benefits for consumers, businesses, and nature. For consumers, it provides healthier products and services. In terms of businesses, it provides sustainable growth and development, decreases consumers' pressure to produce greener products and services, helps to compete with other companies, and performs social responsibility. For nature, it provides more efficient use of scarce resources and harms the environment less (Sharma & Amitabh, 2014; Domazet & Kovacevic, 2018; Nadanyiova *et al*., 2020; Immawati *et al.,* 2020; Khatri, 2021).

Sustainable development is a critical global concern stemming from economic disparity, population expansion, urbanization, and ecological problems (Mohajan, 2015). Everyone agrees that employing green marketing strategies can eliminate obstacles to sustainable development. Additionally, businesses are utilizing green marketing strategies to give themselves a long-term competitive edge in a cutthroat market where understanding the shifting preferences of customers makes competition harder to navigate (Kar & Harichandan, 2022). To survive and maintain market potential against their rivals, companies should respond to

consumers' needs and desires. Since the 1990s, consumer pressure has compelled corporations to innovate in green marketing, emphasizing the reduction of environmental effects and addressing the demand for sustainable products (Rajeev, 2016). Green marketing activities not only give companies a sustainable competitive advantage but also alleviate consumer pressure to produce greener products and services (Lestari *et al*., 2021). Additionally, growing consumer concerns about environmental protection have prompted companies to find innovative solutions, such as producing greener products and services. Companies refer to this initiative as corporate social responsibility (Chowdhury & Dasani, 2021). Additionally, companies use green marketing activities to strengthen their brand. In this way, they can have a socially responsible brand and add new customers to their existing or loyal ones (Nadanyiova *et al*., 2020).

Social and environmental issues are becoming increasingly significant in the marketing environment, leading to their consideration in the development of marketing strategies (Peattie, 2008). In other words, with globalization, problems that negatively affect human life have emerged in many areas. Environmental problems are one example. Since the 1980s, businesses have reshaped their marketing activities to take into account the increasing concerns of human beings due to environmental problems. In this context, businesses divide their green marketing strategies into five sub-categories. These are green labeling, green packaging and branding, environmental advertising, green pricing, and green image (Devi Juwaheer *et al*., 2012). They incorporate green marketing strategies that address the environmental concerns of consumers into their marketing mix. This situation presents itself to consumers as a green marketing mix consisting of green product, price, distribution, and promotion (Simão & Lisboa, 2016).

The level of implementation of green marketing activities differs for each business sector. The air transport sector continues to maintain its popularity despite global economic crises, natural disasters, and epidemics, and passenger traffic is constantly increasing. This is so much so that the number of passengers carried by air transport in 2024 is expected to reach 9.5 billion (Aci World, 2024). Nonetheless, there is a proportionate relationship between the quantity of passengers transported and the environmental harm the aviation sector does. According to Klöwer et. al.'s study (2021), air travel is only responsible for 4% of the dangerous gases emitted into the atmosphere. The projection for air passenger and cargo transportation by 2050 expects this negative contribution to increase three times (Overton, 2019). Green marketing programs allow airlines to design and develop safer products, produce recyclable and biodegradable packaging, control air pollution, and provide more energy efficiency (Kotler *et al*., 2017). However, it is important to note that environmental marketing activities may incur additional costs and result in more expensive products and services compared to those produced traditionally (Kotler & Keller, 2016). In this case, consumers' perceptions of green products and services are critical to airlines' environmental

investment decisions. This also affects the green marketing activities of airlines.

Modern societies benefit greatly from air transportation, both socially and economically, as it provides global mobility for both human beings and raw materials. However, despite these benefits, air transportation also has negative impacts on natural resources and societies. These include global air pollution as well as localized noise and water pollution (Skurla *et al*., 2022). There are three primary strategies to lessen the damaging effects of air travel on the environment. These are operational changes, technological changes, and political changes. Shortening flight times can achieve operational changes while using engines with less noise and gas emissions can lead to technological changes. Financial sanctions such as landing fees and emission taxes, applied to both the airport's surrounding areas and the use of old technology aircraft, have the potential to bring about political changes (Belobaba *et al*., 2009).

While air transportation continues to develop globally, airlines need to consider the increasing environmental concerns of consumers (Mayer *et al*., 2014). In this regard, it is possible to say that the most prominent aim of airlines throughout the history of aviation has been to reduce aircraft fuel consumption. When airlines achieve this goal, they enhance the fuel efficiency and environmental performance of their aircraft, leading to an increase in their overall performance. In this context, the air transportation industry implements many operational and technological measures to reduce CO2 emissions through reduced fuel consumption (Mrazova, 2014). Accordingly, airlines cooperate with aircraft manufacturers to increase fuel efficiency. The most important way for airlines to decrease the negative environmental outputs is to equip their fleets with energy-efficient, fuel-efficient aircraft. In addition, they increase their biological fuel consumption, called sustainable aviation fuel (SAF), day by day. Boeing, one of the most important aircraft manufacturers, is committed to producing aircraft using 100% biofuel by 2030 (Lewis, 2021). In terms of political measures, although there are taxes applied by the civil aviation authorities of the USA and European Union member states due to environmental concerns, it is not possible to say that these steps are very effective in reducing emissions (Eurocontrol, 2020; Doganis, 2005). Because of certain actions taken by aviation authorities, airlines are now under more environmental pressure than they were previously. In line with the 2050 net zero carbon emission target (ICAO, 2023), most countries and airlines have adopted the CORSIA program, introduced by ICAO in 2018. In this direction, airline companies have to report their CO2 emissions, which are more than 10,000 tons, for international flights every year. Thus, the results obtained each year determine the carbon reduction targets for the next year (Ambrose & Waguespack, 2021). In addition, international regulations and standards such as ISO 4001 and EMAS are becoming increasingly important (Hagmann *et al*., 2015). Furthermore, airlines not only use less noisy, fuel-efficient, and CO2-emission aircraft as part of their green marketing strategies, but they also incorporate environmental solutions into

all business processes. Through these initiatives, airline operators have attempted to project a favorable image in the minds of prospective passengers (Niu *et al*., 2016). Airlines should invest in green technologies as much as possible and carry out green marketing activities as a strategic effort focused on social responsibility by providing environmentally friendly products to customers to cope with these environmental pressures. In other words, airlines have made efforts to produce, promote, and recycle environmentally friendly services, which they have introduced to customers through green marketing (Kerin & Hartley, 2018).

Consumers will prefer green products to the extent that they prioritize environmental concerns. Conversely, as consumers' environmental concerns decrease, they will be more inclined to favor traditional products as well. In this respect, the extant green marketing literature is insufficient from the perspective of airline consumers' purchasing behaviors. In other words, they are not examining the relationship between purchase behavior and green marketing activities. Obviously, current studies are limited to measuring consumers' attitudes toward green marketing activities or the environmental effectiveness of green practices (Sarkar, 2012; Mrazova, 2014; Hagman *et al*., 2015; Mayer *et al*., 2015; Abdullah, *et al*., 2016; Niu *et al*., 2016; Çabuk *et al*., 2019). This study focuses on the effect of green marketing strategies on purchase behavior and also extends the Theory of Planned Behavior with two constructs to understand airline consumers' purchase behavior comprehensively. Despite the abundance of papers on green marketing and green consumption behavior, there is a dearth of articles that explore or examine the impact of green marketing strategies on green purchase behavior. In this study, the Price Fairness and Environmental Concerns variables extended the Theory of Planned Behavior (TPB) and provided a unique perspective beyond the existing literature. This was achieved by targeting a specific sector with a genuine research model. We can confidently assert that unique research was conducted. Another important point is that the study contributes to the existing green marketing literature by developing a consumer behavior model, which modifies the Theory of Planned Behavior and investigates the relationship between green purchase behavior and green marketing strategies. The study not only theoretically but also practically contributes to the literature by developing a research model that presents a good fit with data. In light of this, the study's objectives are to ascertain airline consumers' perceptions of green marketing strategies in the scope of planned behavior theory and reveal the effects of these strategies on the purchasing behaviors of airline consumers. The study gives the literature review of green marketing strategies, the theoretical framework of the research, and the formulation of the hypothesis in the first chapter. In the second chapter, the research methodology is explained in detail. The third chapter gives the results of the performed analysis. The last chapter includes the discussion, theoretical and managerial implications, recommendations, theoretical and practical contributions, and limitations of the study.

2. Theoretical Framework

Planned Behavior Theory, as seen in Figure 1, emerged in 1990 as the Reasoned Action Theory to predict the intention of individuals to exhibit a behavior in a particular place and time. The theory aims to explain the behavior of people who have the ability to control themselves. Behavioral intention (BI) is the central idea in this approach. Behavioral intentions are influenced by two factors: the attitude of the probability that an activity will produce the expected consequence and the subjective assessments of the benefits and risks associated with the intended outcome (Lamorte, 2019). The foundation of both theories is the idea that people evaluate the information that is given to them in order to make rational, reasoned judgments about what actions to take (Ruangkanjanases *et al*., 2020).

The TPB theory preserves all structures of the Theory of Reasoned Action (TRA). As in the TRA theory, the main component of TPB theory to determine behavior is behavioral intention, and this component connects beliefs to behavior (Kalafatis *et al*., 1999). To put it another word, intentions to perform different types of behavior can be estimated accurately by AT, SN, and PBC components. These intentions have significant variance in current behavior, which occurs along with perceptions of behavioral control. Attitudes, subjective norms, and perceived behavioral control structures are associated with distinctive behavioral, normative, and control beliefs about behavior (Ajzen, 1991). The TRA theory and TPB theory vary in that the TRA can only account for voluntary behaviors while being unable to explain involuntary behaviors well. For this reason, the TPB theory has been developed by enriching the TRA theory with the PBC structure for involuntary behaviors.

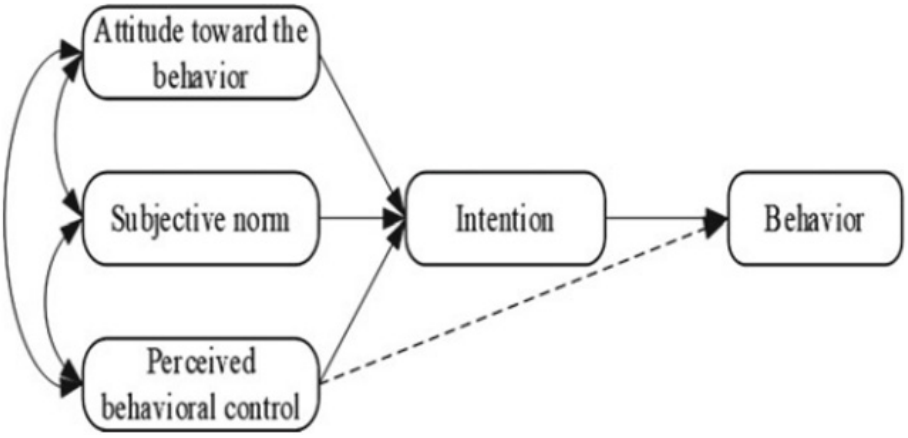

Figure 1. Theory of Planned Behaviour

Within the scope of the research, the (PF) structure was added to the model to measure the price sensitivity of the products and services offered to them as a result of green marketing activities. The underlying main reason for this is that the goods and services provided by green marketing activities are more costly for businesses than traditional products, and as a result, they are offered to consumers more expensively. It is important to determine the effect of price perceptions on the behavior of consumers while purchasing products and services in order to explain their purchasing behavior. Another structure added to the TPB theory within the scope of the research is (EC). Determining the effect of environmental concerns on the behavior of consumers while purchasing products and services has an important function in understanding their purchasing behavior and determining the importance of green marketing activities. With the added new variables, the proposed research model can be seen in Figure 2.

3. Hypothesis Development

Attitude: Attitude toward behavior refers to the extent to which an individual views the behavior in question favorably or unfavorably. In other words, according to TPB, a person's positive or negative attitudes influence their behavior (Wang *et al*., 2024). Studies in the literature demonstrate that attitude plays a crucial role in determining the execution of a specific behavior (Maichum *et al*., 2016; Aisyah *et al*., 2019; Kamalanon *et al*., 2022). A large number of studies argue that attitudes strongly influence green purchase behavior through the mediating role of buying intention (Wang *et al*., 2024; Tai *et al*., 2024). From the perspective of green consumption behavior, it can be said that attitudes are shaped by past experiences, knowledge gained from them, and additional green environment concerns (Harorli & Erciş, 2023). Therefore, these attitudes can either positively or negatively influence an individual's purchasing behavior.

Based on this, it is evaluated that airline consumers' attitudes toward consuming green products have a positive effect on their purchasing behavior. The related hypothesis developed in this context is:

H1: *Positive AT toward green products positively affects airline consumers' intention to purchase green products.*

Subjective Norms: It expresses the social pressure that individuals experience from their environment (family, friends, colleagues) when they act with them (Ajzen, 1991). Subjective norms are perceptions of a particular behavior that are significantly affected by the judgments of others (Ruangkanjanases, *et al*., 2020). Different studies have shown that subjective norms come to the fore as an important determinant in the formation of intention (Judge *et al*., 2019; Christina & Yasa, 2021). In this context, it is predicted that the social pressure perceived by airline consumers to consume green products has a positive effect on their purchasing behavior. The related hypothesis put forward in this direction is;

H2: *Positive SN toward green products positively affects airline consumers' intention to purchase green products.*

Perceived Behavioural Control: With this structure, the level of effort or ease that a person perceives when exhibiting an activity is stated (Ajzen, 1991). According to another expression, perceived behavioral control is the perceived difficulty in performing a behavior (Gantz & Gefen, 2020). In the study conducted by Greaves *et al*. (2013) to examine environmental behavior, perceived behavioral control strongly affects behavioral intention. Again, in the research conducted by Tommasetti *et al*. (2018), it is seen that perceived behavioral control significantly affects intention. Within the scope of the research, it is evaluated that the ease or difficulty perceived by airline consumers towards consuming green products has a positive effect on their purchasing behaviors. The relevant hypothesis prepared in this direction is:

H3: *Positive PBC positively affects airline consumers' intention to purchase green products.*

Price Fairness: Price has a significant role in influencing purchasing decisions. In other words, price is a vital factor in expressing consumption behavior (Siddique, 2012). In terms of companies, deciding on the right pricing strategy has been more complicated because of green marketing and sustainable growth priorities. It is clear that pricing fairly is at the core of businesses' marketing efforts (Singh *et al*., 2023). From the perspective of the consumer, while purchasing goods or services, the buyer pays the seller a price (Shanmugavel & Solayan, 2021). In the buying step, consumers often analyze the prices as a reference and objective and ultimately decide according to their own perception. Research in the airline industry shows that reasonable pricing positively affects consumers' purchasing behavior (Kim & Lee, 2019). However, research on green marketing activities shows that green products can negatively affect the purchasing ability and enthusiasm of consumers in terms of purchasing due to their high costs (Sun & Wang, 2019; Yarimoglu & Gunay, 2019). AT, SN, and PBC have been identified as key elements of purchase behavior, with a mediating role of purchase intention. This study employed these crucial components of PB generation to gauge the impact of PF on PB. To put it another way, this study evaluates price fairness as a crucial factor influencing the AT, SN, and PBC variables, which in turn influence the purchase intention and purchase behavior. It is well-known that the AT variable reflects an individual's general judgment or emotions about a concept or a person. If a consumer develops negative emotions about a seller's reference prices, this will result in a decrease in their willingness to purchase related sellers' products (Maxwell, 2002). Here, it is evaluated that fair reference prices for green products will positively affect consumers' attitudes toward price fairness perceptions. In terms of subjective norms (social norms/pressure/effect), comparing prices based on social norms and economics influences buyers' sense of price fairness. The accepted standards of conduct that apply to both buyers and sellers in economic

transactions are known as social norms, and they direct the actions of the parties involved in those transactions (Maxwell, 1999). The PBC variable refers to the perceived level of effort a person experiences during an activity or action. As is already common knowledge, companies incur higher costs for green products and services compared to traditional ones. The relationship between green products and high costs for consumers makes selling environmentally friendly products less reachable or more difficult for customers. Subjectively perceived obstacles (such as the belief that green products are too costly) and chances to get over these deterrents are the sources of perceived behavioral control (Zagata, 2012). So when individuals' control for performing a particular behavior goes up, their intentions toward acting on that behavior will increase (Harorli & Erciş, 2023). In the light of these explanations, the hypothesis to be measured is:

H4: *Positive PF positively affects AT.*

H5: *Positive PF positively affects SN.*

H6: *Positive PF positively affects PBC.*

Environmental Concerns: Behavior towards purchasing environmental products is influenced by several factors, unlike traditional products. When looking at the big picture, it is seen that consumer behavior toward purchasing green products is affected by consumers' environmental concerns (Zahid *et al.*, 2017). EC reflects people's awareness of the problems that damage the environment (Naz *et al.,* 2016). In other words, EC refers to people's awareness of environmental issues and their desire to personally support such efforts or remedies (Paul *et al*., 2016). Research shows that the Environmental Concerns of individuals influence Purchase Intention through AT, SN, and PBC constructs (Chaudhary & Bisai, 2018; Zhang & Luo, 2021; Auza & Moulouj, 2021). Additionally, Hauslbauer *et al*. (2022) assert that EC serves as a predictive variable for TPB constructs related to green consumption (Hauslbauer *et al*., 2022). Additionally, the level of concern that consumers have about the environment is changeable as low or high (Shah *et al.,* 2023). Additionally, people's environmental concerns can differ depending on their genders or generations, such as Y and Z (Kotyza et al., 2024). This condition is also another important factor in examining environmental concerns and how it affects different passenger groups' buying behavior in terms of AT, SN, and PBC. Ajzen and Fishbein (1980) have suggested that generic attitudes like environmental concern indirectly, rather than directly, influence specific behaviors. According to their theory, a person's overall attitude influences their situation-specific behavioral, normative, and control beliefs, which in turn influence their attitude, subjective norm, and behavioral control (Chen & Tung, 2014). Paul *et al*. (2016) also claim that a person who is concerned about environmental conditions can easily affect her/his family members or his/her friend groups. This is an indicator of social pressure (SN) that is affected by growing environmental concerns (Paul *et al*., 2016).

However, it is not known to what extent consumers' environmental concerns affect their purchasing behavior for green products in terms of air transportation. For this reason, within the scope of the research, how environmental concerns affect the purchasing behavior of consumers is investigated. In this context, the hypotheses to be measured are;

H7: *Positive EC affects AT positively.*

H8: *Positive EC positively affects SN.*

H9: *Positive EC positively affects PBC.*

Purchasing Intention: It is the intention of a consumer to take action to purchase any product (Aykaç & Yılmaz, 2020). In other words, it is a measure of a person's determination to exhibit a particular behavior (Amoroso *et al.*, 2016). Researchers have widely used TPB theory to comprehend the relationship between buying intention and buying behavior. TPB basically defends that the attitudes of consumers affect purchase intention, and this effect on intention turns to purchase behavior (Pandey & Yadav, 2023). Within the scope of the research, it is evaluated that the intention of airline passengers to purchase environmental products will positively affect their purchasing behavior. In this context, the relevant hypothesis is:

H10: *Airline passengers' intention to buy environmental products positively affects their purchasing behavior.*

Purchase Behaviour: It is the final behavior performed by the consumer in the purchase process (Obayelu, 2016). According to Pande and Narayan (2019), purchase behavior reflects the decision-making process of customers. This process generally consists of consumers' preferences among different products or services to fulfill their desires, find the best prices, and increase satisfaction.

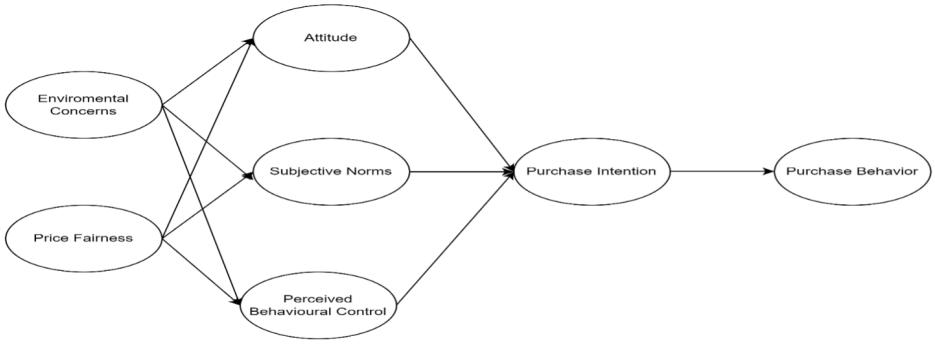

Figure 2. Proposed Research Model

4. Research Methodology

This study employs the correlation research method. The correlation research method describes the relationships between two or more variables are described (Tanrıöğen, 2014). The underlying reason for employing this method can be explained as follows: Especially the complex relations among variables in a research model are easily interpreted with the help of the correlation method (Şekerci Solar, 2021). In the scope of this study, the relations among 7 variables are analyzed with the help of the correlation method. The aim of this research is to measure the effect of the strategies developed by airline companies in terms of green marketing activities on purchase behavior. In this context, a survey questionnaire consisting of 30 questions with two sections (demographic and psychographic) was developed by adding two new variables to the TPB theory. Psychographic questions include the variables of AT, SN, PBC, EC, PF, PI, and PB. With these variables, the attitudes of airline consumers toward green marketing strategies are evaluated by different aspects, and the effect of consumer attitudes on purchase behavior is also measured. The survey questionnaire was designed on the base of 5-point Likert questions. When considering the total variables and items, the sample of 300 consumers is sufficient to carry out the aimed analyses and tests because the minimum sample size is determined as 1 item to 10 observations rule statistically (Kock & Hadaya, 2018; Sagan, 2019). The data collected for the research was analyzed using SPSS 24 and Amos software. Confirmatory factor analysis and structural equation analysis were carried out first. With structural equation analysis, the structural model was tested, and the values obtained from the analysis were evaluated in terms of the fitness of the proposed model and data. The compliance of this study with ethical rules was approved by the decision numbered 04/11 taken by the Erzincan Binali Yıldırım University Human Research Social and Human Sciences Ethics Committee in its session numbered 04, dated 22 April 2022.

4.1. Measures

The participants first answered the item of measuring whether they have ever used air travel or not. Then, they answered demographic questions and modified versions of TPB theory items, respectively. In the concept of the study, TPB measures were adapted to measure the relationship between people's perception of airline companies' green marketing strategies and purchase behavior. AT (3 items from Maichum *et al.* (2016)), SN (3 items from Yang *et al*. (2018)), and PBC (3 items from Yadav *et al*. (2016)) were developed in the context of 5 Likert questions ranged from 1 to 5 (from strongly disagree to strongly agree). Finally, PI (3 items from Maichum *et al*. (2016)) and PB (4 items from Kamalanon (2022)) were structured with other items. Psychographic items of the carried research are demonstrated below:

Attitude (Maichum *et al.* (2016)):

AT1: I think it is positive to buy tickets from green airlines

AT2: I think it is a good idea to buy tickets from green airlines

AT3: I think it is safe to buy tickets from green airlines

Subjective Norms (Yang *et al*. (2018)):

SN1: Most people who are important to me think I should consider green airlines when purchasing my ticket

SN2: Most people who are important to me approve of me considering green airlines when purchasing my ticket

SN3: Most people who are important to me think it is a good thing to consider green airlines when purchasing my ticket

Perceived Behavioral Control (Yadav *et al*. (2016)):

PBC1: Whether or not I buy tickets from green airlines instead of traditional, non-green airlines is entirely up to me

PBC2: I have the resources, time, and opportunities to buy tickets from green airlines

PBC3: I am confident that I could buy tickets from green airlines instead of traditional, non-green airlines if I wanted to

Purchase Intention (Maichum *et al.* (2016)):

PI1: I intend to buy tickets from eco-friendly airlines next time because of their positive contribution to the environment

PI2: I plan to buy more tickets from eco-friendly airlines instead of regular airlines

PI3: I will consider switching to eco-friendly airlines for ecological reasons

Purchase Behavior (Kamalanon, (2022)):

PB1: I will try to buy tickets from green airlines

PB2: I chose to buy tickets from green airlines because of their environmental benefits

PB3: When I choose between flights, I buy the one that is less harmful to the environment

PB4: I will buy tickets from green airlines even if they are more expensive than traditional ones

The above items are mainly derived and modified from TPB. The theoretical framework section elucidates these items' primary focus. Simply put, the attitude construct aims to understand the impact of positive or negative attitudes held by airline passengers on their purchasing behavior. The subjective norms construct deals with the social pressure that airline passengers encounter and examine its impact on their purchase behavior. The perceived behavioral control variable illustrates the level of difficulty airline passengers encounter when making purchases of environmentally friendly products. This construct aids in comprehending the impact of the difficulty of purchasing environmentally friendly products on subsequent purchase behavior. The purchase intention construct reflects the positive evaluations that airline passengers have made about buying green products in the past. Positive evaluations from passengers are likely to influence their purchasing behavior. This construct helps to understand the effect of airline passengers' positive attitudes on purchase behavior. Purchase behavior constructs reflect the ratio of intention to actual purchase behavior.

The proposed research model predicted that environmental concerns and price fairness would influence air travelers' perceptions of airlines' green marketing strategies. To analyze the impact of these constructs, EC (4 items) and PF (3 items) were included in the research survey with 5 Likert question designs. The items of EC were taken from Paul *et al*. (2016). PF items were derived from Konuk (2017).

Environmental Concerns (Paul *et al*. (2016)):

EC1: I am very concerned about the environment

EC2: I am willing to reduce my consumption to help protect the environment

EC3: Major social changes are needed to protect the environment

EC4: Anti-pollution laws should be enforced more strongly

Price Fairness (Konuk (2017)):

PF1: The ticket prices of green airlines are acceptable

PF2: The ticket prices of green airlines are fair

PF3: The ticket prices of green airlines are reasonable

The Environmental Concerns variable aims to gauge passengers' concerns about their consumption habits, thereby enhancing our understanding of how environmental concerns influence purchase behavior. The proposed research model uses the Price Fairness variable to gauge passengers' elasticity towards the high costs of green products, thereby measuring the impact of price fairness on purchase behavior. The purchase Intention construct reflects the positive effects of the combination of AT, SN, PBC, EC, and PF. The combination of these constructs' positive effects leads to the purchase intention, and it will result in highly likely

purchase behavior. In other words, factors such as higher positive attitudes, subjective norms, perceived behavioral control, environmental concerns, and price fairness will facilitate the appearance of desired purchase behavior.

4.2. Participants

The research survey was distributed to participants through Google Surveys as an online channel. Totally 350 people flew at least once and participated in an online survey. Forty-nine of them were eliminated due to missed information, and the research analysis was completed using data collected from 301 surveys. Interestingly, more women participants than men were observed, 221 to 80. According to the monthly income, the incomes of participants equally ranged from 4000 Turkish Liras to 10000 Turkish Liras. There was a slight difference in the over 10000 Turkish Liras segment by 15 percent. It is evident that the majority of research participants consist of young and middle-aged consumers, with the number 231. While around half of the participants hold a bachelor's degree, the number of participants with master's and doctoral degrees is approximately 10 percent. While 15 percent of the respondents have an associate degree, approximately 25 percent have high school and primary school graduates. The detailed findings in relation to the demographic features of participants are presented in Table 1.

Table 1. Demographic Features of Participants

Demographic Group	Category	Frequency	Percent
Gender	Women	221	73.4
	Men	80	26.6
	Total	301	100
Age	18-19	10	3.3
	20-30	125	41.5
	31-39	106	35.2
	40-50	47	15.6
	51-59	8	2.7
	60 and over	5	1.7
	Total	301	100
Monthly Income	4000 and 5000TL	20	6.6
	5001 and 6000TL	34	11.3
	6001 and 7000TL	16	5.3
	7001 and 8500TL	21	7
	8501 and 10000TL	26	8.6

	over 10000TL	47	15.6
	I am not working	137	45.5
	Total	301	100
Education Level	Primary Education	17	5.6
	High School	66	21.9
	Associate Degree	46	15.3
	University	147	48.8
	Master	22	7.3
	Doctorate	3	1
	Total	301	100

5. Results

With two variables in addition, TPB was adapted to measure people's perception of green strategies. To understand the obtained data and how represent the research model, firstly Confirmatory Factor Analysis (CFA) was conducted for all items (AT, SN, PBC, EC, PF, PI, and PB). CFA is to be conducted to control the reliability and validity of items in the measurement model and the obtained results demonstrated in Table 2.

Table 2. Convergent and Discriminant Validity Results

	CR	AVE	MSV	MaxR(H)	AT	SN	PC	EC	PF	PI	PB
AT	0.868	0.688	0.440	0.879	**0.830**						
SN	0.910	0.772	0.546	0.911	0.663	**0.879**					
PC	0.764	0.538	0.490	0.840	0.490	0.572	**0.733**				
EC	0.779	0.471	0.316	0.796	0.507	0.342	0.460	**0.686**			
PF	0.946	0.855	0.328	0.962	0.344	0.455	0.465	0.236	**0.925**		
PI	0.908	0.767	0.871	0.909	0.522	0.636	0.617	0.546	0.573	**0.876**	
PB	0.866	0.619	0.871	0.868	0.630	0.739	0.700	0.562	0.571	0.933	**0.787**

In terms of convergent validity, with the exception of the EC construct, all constructs meet the minimum threshold of the squared root of the AVE value. According to Fornell and Larcker (1981), if a construct's AVE value is lower than 0.5 but its CR value is higher than 0.6, convergent validity is provided. EC construct's AVE value is lower than 0.5, but its CR value is higher than 0.6. According to Fornell and Larcker's (1981) study, convergent validity is established for all constructs. For divergent validity, there are two rules which are first, providing MaxR(H) values of all constructs in the measurement model should be higher than these constructs CR values, and secondly, the squared root of AVE values of all constructs should

be higher than these constructs' correlations (Fornell & Larcker, 1981). In terms of the first criteria of Fornell and Larcker (1981), all constructs provide the needed requirement. When the measurement model is examined for the second necessity, it can be said that all constructs meet acceptable for discriminant validity.

Table 3. Reliability and Validity of the Proposed Constructs

Internal Consistency and Reliability of The Proposed Constructs	Cronbach Alpha
Attitude	0.861
Subjective Norm	0.909
Perceived Behavioural Control	0.737
Environmental Concerns	0.755
Price Fairness	0.943
Purchase Intention	0.908
Purchase Behaviour	0.855

On the other hand, skewness and kurtosis values are used to assess the normality of the observed variables. For this purpose, skewness values should range between -2 and +2, and kurtosis values should range between -1 and +5 (West *et al*., 1995). The findings of the carried analysis out show that all skewness and kurtosis values are at the acceptable ranges according to the considered standards (West *et al*., 1995).

Model Fit Index was observed and examined according to the well-known and accepted standards of the goodness of fit indices. According to the considered standards of the goodness of fit indices for the study derived from (Civelek, 2018), CFI (The comparative fit index) should be at least 0.90, and the RMSEA value should be between 0.5 and 0.8. Also, the CMIN/DF value should be between 1 and 5 for an indication of an acceptable fit. The results show that the CFI value is 0.912, the RMSEA value is 0.8, and the CMIN/DF value is 3.031. Additionally, the Cronbach Alpha value showing the internal consistency and reliability of the proposed constructs must be at least 0.7. According to the findings, Cronbach Alpha values range between 0.7 and 0.9 for all constructs.

Table 4. Analysis of the Hypothesis

Proposed Variables and Hypotheses			B	β	S.E.	C.R.	P Level
Environmental_Concerns	>	Attitude	0.651	0.558	0.1	6.542	0.001
Environmental_Concerns	>	Subjective_Norms	0.702	0.383	0.129	5.461	0.001
PriceFairness	>	Perceived_Behavioural_Control	0.127	0.384	0.025	5.09	0.001
PriceFairness	>	Subjective_Norms	0.4	0.38	0.061	6.584	0.001
PriceFairness	>	Attitude	0.179	0.268	0.04	4.471	0.001
Environmental_Concerns	>	Perceived_Behavioural_Control	0.264	0.456	0.054	4.863	0.001
Subjective_Norms	>	Purchase_Intention	0.259	0.373	0.037	6.913	0.001
Attitude	>	Purchase_Intention	0.226	0.207	0.064	3.534	0.001
Perceived_Behavioural_Control	>	Purchase_Intention	0.901	0.409	0.17	5.293	0.001
Purchase_Intention	>	Purchase_Behaviour	0.76	0.961	0.051	14.929	0.001

The structural model results present that all proposed hypotheses are accepted at 0.001 significance level as shown in Table 4. Firstly, EC positively affects AT, SN, and PBC variables. PF also positively affects AT, SN, and PBC variables. AT, SN and PBC variables positively affect Purchase Intention. Then, Purchase Intention positively affects Purchase Behaviour.

6. Discussion and Implications

This study extended the theory of planned behavior (TPB) to investigate the impact of airline companies' green marketing activities on passengers' purchase behavior. The findings demonstrated that airline consumers are well aware of airline companies' environmental activities, and this situation has a significant impact on their final purchase decision. The results of the hypotheses support the positive relationship among EC, PF, AT, SN, PBC, PI, and PB variables. The results of structural equation modeling showed that the proposed research model explained 60 percent of the variance in consumer purchase intentions. This %60 variance turns to purchase behavior at a rate of %90. These results were %27 and %39 in the variances of purchase intention and behavior when compared to the original TPB theory (Alzubaidi vd., 2021). Previous research also yielded different results, such as the study by Judge et al. (2019), which showed a variance in intention of 65 percent. Nekmahmud et al. (2022) explained a variance in intention of %27.53, whereas Xu et al. (2020) found a variance of %59.9.

The findings of the study highlight that AT, SN, and PBC variables positively affect purchase intention. The outcome aligns with the findings of earlier research (Nekmahmud *et al*., 2022; Gansser & Reich, 2023; Lou *et al*., 2022) in the concept of customers' interaction with companies' greener marketing activities. This result

shows that Turkish passengers are potentially open to green marketing activities and paying attention to companies' green products and services. Nevertheless, the results demonstrate that EC has a positive impact on AT, SN, and PBC variables, a finding that aligns with Chen and Tung's (2014) study. However, airline consumers are sensitive to flight costs, as evidenced by the significant impact of the PF variable on AT, SN, and PBC variables in similar studies by Sayuti and Amin (2019) and Han and Han (2023). While airline passengers pay attention to environmental issues, they also prioritize reasonable prices for their air travel. The high expenses of providing customers with eco-friendly products lead to this situation. This finding follows the same pattern as previous studies in terms of the price value associated with green purchase intention (Erdil, 2018; Weisstein, 2014). Customers with high price concerns perceive the prices they have paid as an obstacle. In other words, as the level of cost that consumers afford gets high, their purchase tendency for green products decreases (Weisstein, 2014). Obviously, there is great potential in terms of caring about green products and services, so, practically, airline companies should keep on focusing their green marketing activities by maintaining their cost levels without reflecting on ticket prices to attract more air travelers. In contrast to the growing awareness among airline passengers about environmentally friendly air transportation, local airlines offer a limited range of eco-friendly services. For example, Turkish Airlines and Pegasus have only biofuel and ticketing services. In terms of environmental initiatives, airline companies should enrich their green marketing campaigns with various tools such as biofuel, engines with less noise and air pollution emissions, electronic ticketing, online check-in services, and check-in services via airport kiosks. With different and varied green marketing services, more consumers can be promoted to buy more air travel products and services since this approach will bring their green awareness to a value package for them. Additionally, governments should provide subsidies to airline companies to enable them to offer environmentally friendly products and services. This approach will lower the expenses associated with the green initiatives of airline companies, thereby lowering the high prices of their products and services. This will also help decrease consumers' price sensitivity. Finally, the positive relationship between the PF variable and AT, SN, and PBC variables provides important insights into airlines' reasonable pricing policies for greener products and services.

This study has theoretical implications that are worth discussing. Firstly, the addition of new variables, such as price elasticity and concerns about green marketing activities, has enriched the TPB theory. Secondly, the study has found that AT, SN, and PBC have a positive impact on purchase intention, which in turn transforms into actual purchase behavior. The study provides new insights into existing literature by exploring the relationship between PB, EC, and PF variables. According to García-Salirrosas and Rondon-Eusebio (2022), EC is a significant variable in estimating purchase behavior, as individuals' actions related to environmental concerns become part of their lifestyle, and companies develop

strategies to mitigate the negative impact of their activities on the environment. Moreover, Erdil (2018) argues that price fairness plays an essential role in shaping green purchase behavior. Therefore, EC and PF variables were incorporated into the conceptual model.

This study also has managerial implications, as it sheds light on the impact of green marketing activities on consumer purchasing behavior. Thanks to that, airline companies can develop better and more precise marketing strategies. This way, they can easily target consumers who are more eco-friendly than others. Another implication of the research, from a managerial perspective, is the opportunity to determine the significance of green marketing strategies for potential customers. In other words, the research model allows airline companies to easily decide whether or not to adopt green marketing strategies. This study makes a substantial contribution in terms of managerial aspects. The study's final managerial implication suggests that airline companies can benefit from implementing green marketing strategies in the air transport industry. These advantages include gaining a competitive advantage, maintaining a positive reputation, enhancing brand image, encouraging repeat purchases, and fostering customer loyalty.

6.1. Contributions

This model theoretically contributes to the literature on green marketing and green consumer behavior, particularly in the context of a changing environment that includes social, cultural, and technological elements. TPB has been widely used to understand the general behavior of humankind. To achieve this, the theory employs AT, SN, and PBC variables, which are mediated by behavioral intention variables. In other words, AT, SN, and PBC variables primarily shape behavior by influencing behavioral intention variables. Besides that, Ajzen proposed TPB in 1991, but it falls short in explaining people's shifting desires, cultural shifts, and the impact of technological advancements on consuming behavior. The study enriched the Theory of Planned Behaviour (TPB) by incorporating additional variables, such as EC and PF, with the aim of examining the green consumption patterns of airline passengers. This enhanced the functionality of the theory and broadened its scope to understand the distinct green consumption patterns of airline passengers. This model has made a practical contribution to the existing green marketing literature, marketing experts, and researchers. It has been proven that the proposed model (extended from TPB) presents a good fit with the data. Anyone interested in conducting research in this field will find the model practical and beneficial to their work.

6.2. Limitations and Recommendations

This study has examined the current state of green consumption behavior among airline passengers within the context of the local airline market. Turkish airline consumers exhibit environmental sensitivity, prompting managers of airline

companies to consider crafting more targeted green campaigns to capture their customers' attention and cultivate a positive perception in their minds. Pegasus and THY, the dominant carriers in the Turkish air passenger market, should expand their greener airline campaigns by incorporating new tools like paperless check-in services for all passengers and allocating some of their ticket sales revenue to green projects rather than relying solely on green fuel campaigns. It is recommended that campaigns be conducted not only to reduce the level of damage caused by their operations but also to protect the environment. To reduce environmental damage and protect the environment, local airlines should implement green marketing strategies within their operations. They should internalize environmentally friendly behaviors such as using computerized smart systems instead of paper in their operations and also utilize the sun as their energy source.

This study has some limitations, such as having a convenient sampling method to collect data. I believe that if I used the random sampling method, I could more comfortably generalize the results, but currently, generalizing research findings may not accurately reflect the actual condition of consumers. Secondly, Turkey has a predominantly young population. The data that was collected reflects this study, but it would be more useful to have old people involved in the data collection process to see the general condition of age categories in terms of green consumption. Thus, the study is limited in terms of age groups involved in the survey collection process. Thirdly, the gender gap between participants is very high. While more than 200 women participated in the survey, 80 men were interested in joining. Another limitation of the study is that the findings mostly reflect female participants' behaviors.

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