



The role of environmental concern in purchasing decision on organic food and the link to greenwashing

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Received: 11 May 2023 / Accepted: 1 November 2023
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Abstract

Customers have changed their buying habits due to growing consumer awareness of good nutrition and environmental degradation. They now seek more natural, high-quality, and dependable items from companies. Businesses include organic products in their product offers, and organic product consumption is becoming a growing market considering the changing consumer expectations. For this reason, firms in the industry must understand what influences consumers' attitudes and purchase intentions concerning organic food. On the other hand, Companies may make greenwashing to increase their sales by seeming more sustainable or environmentally friendly than they are, without making any meaningful changes to their practices. In this paper, we analyze the factors affecting the purchasing decisions of consumers on organic food and relate the results with the greenwashing behaviour of firms. An online survey obtained the research data via Google Forms to 425 consumers selected by convenience sampling. Confirmatory Factor Analysis and Structural Equation Model were used to analyze the data. Our results show that health consciousness, food safety, price sensitivity, and quality are significant drivers of organic food purchasing decisions, while environmental concern is statically insignificant driver of consumer attitudes.

Keywords Environmental concern · Greenwashing · Organic food · Food sustainability · Environmental awareness · Structural equation model

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1 Introduction

The growing recognition of the paramount importance of food production is driven by a confluence of factors, encompassing the expansion of the global population, rapid urbanization, encroachment on rural spaces, and mounting concerns regarding the sustainability of resource utilization. These influential factors, prompting a concerted effort to enhance productivity across the spectrum of agricultural production and processing, have culminated in the widespread incorporation of various additives. However, this approach bears the potential to jeopardize human health, as these additives can harbor detrimental effects. Furthermore, the use of such chemicals carries the inherent risk of inflicting lasting and irreversible damage on both the environment and human well-being (Yazar & Burucuoğlu, 2019). Hence, organic farming has emerged as a compelling alternative to conventional practices, driven in part by heightened apprehensions surrounding environmental sustainability. The enduring benefits of this approach stem from its emphasis on fostering the growth of ecological services, its prohibition of genetically modified organisms, and its commitment to safeguarding biodiversity, soil health, water purity, air quality, and mitigating the impacts of climate change (Chiciudean et al., 2019).

A growing number of consumers now prefer organic and ecologically friendly goods due to increased consumer awareness of environmental damage (Basha et al., 2015). Individuals might choose to purchase organic food when they believe it offers superior taste, contributes to an improved lifestyle, provides health advantages, and contributes to environmental preservation (Gupta, 2016). The foundation of a healthy life rests on consuming high-quality food that is free from pesticides. In response to consumer demand for healthier choices, manufacturers enhance the health and wellness attributes of their products, thereby driving increased sales of these items (Suanmali, 2020). Green foods are cultivated through a commitment to secure, high-quality, nutritious, and sustainable practices that prioritize both consumer well-being and animal welfare. Organic foods are cultivated, processed, and stored without the use of pesticides, fungicides, growth hormones, synthetic chemicals, or artificial fertilizers. It's important to note that not all environmentally conscious foods can be classified as organic. Consumers' preference for products produced by businesses that make environmentalist claims also leads businesses to greenwashing. While foods eligible for the green food logo are both nutritious and safe, it's essential to highlight that organic foods hold the most stringent certifications (Ueasangkomsate & Santiteerakul, 2016). Educating consumers that organic food has been consumed for generations before the emergence of the industry, highlighting its historical significance rather than being a niche product, has been shown to boost the demand for organic food (Chiciudean et al., 2019). This demand is steadily rising in both developing and developed nations, experiencing an average annual growth rate of 20–25% (Ghalawat et al., 2019).

With the increasing global interest in environmental issues, the demand for green products has significantly risen. This situation has led to green marketing becoming an effective tool for businesses to gain a competitive advantage (Zhang et al., 2018; Guerreiro & Pacheco, 2021). Since the 1970s, heightened environmental awareness has prompted consumers to seek more organic and environmentally friendly options (Smith & Paladino, 2010; Rahbar & Wahid, 2011; Chen et al., 2016; Bulut et al., 2021; Tarabieh, 2021) and they have become willing to pay a higher price for these products (Netto et al., 2020). Recognizing this consumer trend, some sellers may attempt to capitalize on the demand for organic food by presenting their products as more sustainable than they actually are. This can lead to a false sense of eco-friendliness and health benefits, ultimately influencing

consumers' purchasing decisions (Ende et al. 2023, Junior et al. 2019). By associating their products with qualities like organic or eco-friendly, sellers aim to attract a larger share of consumers who are willing to pay a premium for products that they perceive as better for their health and the environment. This greenwashing can take various forms, such as using vague or misleading labels, making unsubstantiated claims about environmental benefits, or highlighting minor eco-friendly aspects while ignoring broader harmful practices. The primary motivation behind greenwashing is to create a perception of environmental responsibility and sustainability, thereby attracting environmentally conscious consumers and potentially increasing sales and profits (Boncinelli et al. 2023; Wahap 2018; Jakubczak & Gotowska, 2020). Despite the abundance of research on consumer behavior towards organic food products in Turkey, there remains a dearth of studies that delve into the formation of consumers' attitudes towards organic food, the factors influencing these attitudes, their relative significance, and their interconnectedness with purchase intentions. (Bolat et al., 2020). In light of this context, the primary objective of this study is to investigate the potential influence of attitudes towards organic foods on purchase intentions. Furthermore, this research aims to explore the interplay between various variables, including health consciousness, environmental concern, food safety, price sensitivity, and quality, which are believed to shape attitudes towards organic foods. The study will delve into the concepts of health consciousness, environmental concern, food safety, price sensitivity, quality, attitude towards organic food, and purchase intention, providing comprehensive insights into the existing literature on these subjects. Furthermore, the study sheds light on the significant role of environmental concern as a pivotal factor influencing consumer attitudes towards organic food. It achieves this by investigating the dynamic interaction between environmental concerns and the phenomenon of greenwashing.

2 Conceptual framework

2.1 Health consciousness

According to Chen (2009), the two most significant factors in organic food consumption are health consciousness and environmental concern. Health consciousness is a concept used to determine whether a person is ready to do something for their own health. Highly health-conscious consumers seek to reduce disease risk by taking the necessary precautions to stay healthy. When people are prepared to make changes to improve their health, a more favorable attitude toward organic foods develops (Bolat et al., 2020, 1307). McEachern & McClean (2002) investigated how ethical beliefs affect Scottish consumer perceptions, beliefs, attitudes, and purchasing decisions regarding organic dairy products. As a result of the study, it was stated that consumer purchasing motivations were centered on self-interest (that is, tastier, safer). At the same time, it was emphasized that the main reasons for buying organic dairy products were health, taste, and food safety. Organic food is considered to be more expensive, healthier, tastier and better for the environment than conventional food (Magnusson et al., 2001; Lea & Worsley, 2005; Radman, 2005; Michaelidou & Hassan, 2008).

Similarly, Mohamed et al. (2012)'s investigation of customer views regarding organic products in Cairo, Egypt, indicated that women found organic items to be much more delicious than men. According to Pellegrini & Farinello (2009), one in two Italian consumers believes that organic food is tastier than conventional food. In their study in Switzerland,

Mann et al. (2012) stated that consumers perceive organic products as healthy, while urban and female consumers tend to consume organic products. Some studies show the relationship between health consciousness and organic food consumption as follows:

Lockie et al. (2002) stated in their study that the most important motivating factors when organic consumers make their food choices are the healthy and natural content of the food and its price. The study also stated that there is a strong correlation between the level of education and the increase in organic food consumption. On the contrary, Magnusson et al. (2003) emphasized in their study that there is no relationship between education level and organic food consumption. Krishnakumare & Niranjana (2017) conducted a study in which they examined the purchasing behavior of 240 consumers toward organic food products in the Tirupur region of Tamil Nadu. According to the results obtained from the study, health consciousness is the main reason consumers buy organic food products. While most respondents who consume organic food believe that these items do not include pesticides, most of those who do not feel that these products contain pesticides believe that they are natural. Although organic food is considered healthy, distrust of product authenticity is one of the main reasons for not purchasing organic food. Inan et al. (2021) surveyed with 492 participants to evaluate the attitudes and purchasing patterns of consumers who buy organic food. While the most crucial factor affecting the preference of the participants for organic foods is “the healthiness of the products,” the results of the research revealed that the other factors are “the products do not contain chemicals” and “the quality,” respectively. The most preferred products were fresh vegetables, fruits, olive oil, and eggs.

When the studies in the literature are examined, it can be said that health awareness affects the attitude toward organic foods. Therefore, the first hypothesis was developed as follows:

H₁ Health consciousness positively and significantly affects attitudes toward organic foods.

2.2 Environmental concern

One of the primary drivers behind buying any product, including organic goods, is a concern for the environment. Many environmentally conscious consumers are willing to contribute to protecting the environment (Basha et al., 2015, 446). Environmental concern is one of the most critical factors that determine the purchasing attitude and intention, as well as being a socially accepted norm that affects the initiative-taking sense of individuals to protect the environment or consumer choices (Unal et al., 2019, 6–10). In this regard, Kim & Choi (2005) claim that the consumer’s environmental concern level is strongly related to green product purchasing behavior.

Arvola et al. (2008) examined the role of emotional and moral attitudes as motivators of organic foods within the scope of “Planned Behavior Theory” in their study. According to the survey, intentions to buy organic food relate to feelings of self-reward and morally decent behavior by acting in a way that benefits the environment. Similarly, Gracia & Magistris (2007) stated in their study that consumers who believe that organic food products are healthier and are more concerned about pollution and environmental damage are more willing to buy them. In another study conducted with 1283 Norwegian adults, Honkanen et al. (2006) investigated the role of consumers’ ethical motives in choosing organic food. According to the research, environmental and animal rights issues strongly impact attitudes toward organic food. This demonstrates that the more individuals care about environmental issues, the more positive attitudes they will have regarding organic food, and the more

likely they will consume organic food. Accordingly, the second hypothesis was developed as follows:

H₂ Environmental concern significantly and positively affects attitudes toward organic foods.

Research shows that environmental concerns have become a driving force in shaping consumer attitudes and behaviors, particularly in the context of purchasing decisions related to products like organic foods since environmental concerns directly influence green purchasing intentions (Newton et al., 2015; Koenig-Lewis et al., 2014). Sun & Shi (2022) emphasize that consumers who are more concerned about the environment will have a stronger impact of greenwashing perceptions on their green purchasing behavior. Nekmahmud & Fekete-Farkas (2020) have indicated that the environmental concerns of young consumers significantly influence their decisions regarding green purchasing. Consumers with environmental concerns are better at detecting false or misleading environmental claims compared to those who are less concerned about the environment (Klabi & Binzafrah, 2022, 80), and these consumers are more likely to engage in environmentally friendly behaviors such as energy conservation, recycling, and purchasing green products (Zhang et al., 2018).

Consumers are increasingly seeking products that align with their environmental values and contribute to sustainability. However, this growing demand has also led to the rise of deceptive marketing practices known as greenwashing, where companies falsely portray their products as environmentally friendly to capitalize on consumer concerns. Consumers with higher environmental concern tend to perceive organic foods as more desirable due to their perceived positive impact on the environment (Kushwah et al., 2019). Greenwashing occurs when companies engage in misleading marketing practices to create an illusion of environmental responsibility without genuinely adopting sustainable practices (Delmas & Burbano 2011). Also it is a widely recognized strategy that firms employ to outperform their competitors. Nonetheless, nearly all critics concur that greenwashing proves detrimental to both the environment and consumers' well-being. To illustrate, certain authors have demonstrated the ramifications of heightened greenwashing, asserting that it may unfavorably impact the trust of shareholders and customers in environmentally friendly products (Guo et al., 2017, Pizzetti et al., 2021) and that it hinders customers from comprehending the outcomes of their purchasing decisions as they attempt to discern between credible and non-credible assertions (Ramus & Montiel 2005, Horiuchi et al., 2009). Greenwashing positively influences the perceived risk by consumers, thereby reducing consumer satisfaction related to environmental concerns (Chen et al., 2016). Furthermore, greenwashing, which has a negative effect on green trust, damages environmental concerns (Tahir et al., 2020). In conclusion, greenwashing emerges as a significant issue intertwined with research centered on consumer behaviors concerning organic food.

2.3 Food safety

Food safety is part of food-related problems and solutions. The World Health Organization (WHO) estimates that foodborne bacteria, parasites, toxins, and allergens cause approximately 23 million cases of disease and 5000 deaths each year in Europe (Flynn et al., 2019). Food safety incidents and environmental events worldwide, such as the egg dioxin scandal in Belgium, bird flu, mad cow disease, and pesticides applied in modern agriculture, have

increased consumers' concerns about food safety. According to Konuk (2018) and Aslam & Hong (2018), health and environmental concerns have gained importance in consumers' decision-making processes and have rapidly increased the demand for organic food. Additionally, the response of consumers to global food chains and food scandals has also led to an increase in demand for these products (Ruslan et al., 2021).

Due to food safety problems, consumers have tended to seek safer foods whose quality and safety are guaranteed. Organic products are considered valuable if they are perceived to be free of some of the critical factors that cause food safety concerns. Perceived value is about the price and the benefits of owning, using, or consuming a product (Shaharudin et al., 2010). Intangible values such as environmental friendliness, quality of life, personal satisfaction, support for small farmers, and animal rights all potentially contribute to the value placed on organic food (Briz & Ward, 2009).

When purchasing food, consumers pay attention to product characteristics such as the high nutritional value of the product and the way it is produced, the absence of additives and preservatives, and the absence of pesticides and chemical residues (Bolat et al., 2020). According to Van Loo et al. (2011), people mostly choose organic chicken meat because it is considered safer, healthier, and contains fewer residues. They also stress that the food's naturalness and nutritional value are related to the utilitarian attitude of consumers. Erdal & Turhan (2020) study on the loyalty and purchase patterns of organic food consumers; 85% of them bought organic items, whereas 15% did not. According to the study findings, women, university graduates, and married people were more likely than men to eat organic products, and 98% of the participants were knowledgeable about organic food. The study revealed that food safety is the most significant factor for consumption, and education level also affects organic food consumption. According to the reviewed articles, the third hypothesis was developed as follows:

H₃ Food safety significantly and positively affects the attitude towards organic food.

2.4 Price sensitivity

“Price plays an important and complex role in consumers' evaluation and quality of a product. Price is always accepted as an indicator of product quality and value and is defined as something given up or sacrificed to obtain a product (Unal et al., 2019)”. Since organic products must meet specific requirements to be considered organic, Muhammad et al. (2015) claim that producing organic products is more expensive than producing traditionally produced goods. Moreover, organic products must be distinguishable from traditional products and certified by a recognized organization. Additionally, organic farms have higher operating expenses, need more labor, and take longer to prepare and harvest their produce. Haghjou et al. (2013) stated that all these activities are expensive, which is reflected in the production costs and prices of organic products.

The concepts of ability to pay and willingness to pay are distinct. According to Grassi (2008), consumer willingness to pay is the highest price a consumer will pay for a product without any financial restrictions. Even with a limited budget, a consumer who consumes a product and receives significant benefits is prepared to spend more on that product. The frequency of consuming organic products and experience are the variables that substantially impact willingness to pay. People who try organic products once are more likely to pay for them again. Most importantly, those concerned for their health and the environment are willing to pay more for organic products (Suanmali, 2020).

Although there are many studies on gender and organic product purchasing behavior, there is also evidence that gender affects willingness to pay. In this context, demographics affect willingness to pay (Suanmali, 2020). While Urena et al. (2008) and Van Doorn & Verhoet (2011) point out that female consumers have a more positive attitude towards organic foods than men, Fotopoulos & Krystallis (2002); Radman (2005); Ustaahmetoglu & Toklu (2015); Rahnama (2017); stated in their studies that female consumers are more willing to buy organic products than men. Women with higher education and income levels are significantly more aware of the potential risks of food. While women are more health-conscious, they are also more conscious of the effects of chemical residues and preservatives and are willing to pay a higher price for environmental benefits (Shafie & Rennie, 2012, 361). The fact that women tend to consume more organic products than males and are more willing to pay more for them has also been emphasized in several studies (Rezai et al., 2013; Govindasamy et al. 2018).

Among demographic factors, individual income also significantly affects willingness to pay (Mohamed et al., 2012). Rodriguez et al. (2008) suggested in their study conducted in Argentina that consumers' perceptions of the health risks associated with hormone and pesticide use, the product's accessibility on the market, and their consumption of organic food are all related to their willingness to pay more for organic products.

Sustainable products are always thought to be more expensive. If consumers are satisfied with their current purchases, this can create an obstacle to organic food purchases. Organic food purchases may become problematic if customers are happy with their present purchases. Consumers will not be willing to pay more for food they can purchase cheaper if they do not believe organic food is better (Shafie & Rennie, 2012). This supports the results of the study by Tsakiridou et al. (2008) with 660 participants to explain the behavior and attitudes of Greek consumers towards organic food products. Some studies show the relationship between price sensitivity and organic food consumption.

In their study, Angulo et al., (2005) also noted that although Spanish consumers are worried about food safety, they are unwilling to pay more for beef that has been tagged with a certificate of traceability. Because consumers believe that higher meat prices reflect improved quality rather than increased safety. Spanish consumers consider food safety a responsibility of producers but argue that producers should guarantee security without consumers having to pay more. Sarıkaya (2007) noted that four factors—responsibility, trust, value, and benefit—stand out in terms of customers' views and purchasing behavior concerning organic products. According to the study results, women give more importance to the price than men. Although organic products are expensive compared to alternatives, consumers are willing to pay more because they believe they are healthy. Fresh fruits and vegetables were the most popular organic products, but men were reported to have made these purchases at higher rates than women. Haghjou et al., (2013) investigated the factors affecting consumers' potential to pay unaffordable prices for organic food products in Tabriz, Iran. It was reported that approximately 95% of the participants were willing to pay more. For more than 80% of consumers, the most critical problems when purchasing organic products are "lack of certificates and organic labels," "lack of advertising," and "high prices." Eti Icli et al., (2016) stated in their study that most consumers buying organic food are women, married, and have two children. They concluded that there is no significant difference between age groups in organic food purchasing preference. In addition, it has been determined that the cost of organic food products and their limited accessibility are the two most significant variables that harm consumers' preferences for buying organic food. Accordingly, the fourth hypothesis was developed as,

H₄ Price sensitivity significantly and positively affects the attitude toward organic foods.

2.5 Quality

In the food sector, one of the critical factors influencing a consumer's choice is the product's appearance and quality (Suanmali, 2020, 72). For instance, Croats rank high quality as the second-most significant factor in using organic food after health considerations (Mohamed, 2012, 184). According to Dipeolu et al., (2009), Nigerian consumers know that organic food is healthier, tastier, and of higher quality and has no harmful effects. Kashif et al. (2020) stated that organic food products are more nutritious than traditional ones. Another study found no difference between organic and conventional milk. However, consumers claimed that organic orange juice was tastier than conventional orange juice (Shafie & Rennie, 2012).

The food quality and consumers' access to safe food significantly affect their health (Yazar & Burucuoglu, 2019). Consumers who purchase organic foods are typically more concerned with quality than price (Basha et al., 2015). Krystallis & Chrysosoidis (2005) argue that food quality and safety are the primary motivation for willingness to pay for organic food. While Ghalawat et al. (2019) stated in their study that organic foods are more environmentally friendly, they emphasized that the reasons for purchasing organic products are quality, health concerns, and the taste and texture of the product, respectively.

Gupta (2009), in his study investigating consumer behavior towards organic food in India, concluded that people evaluate various parameters differently for different product groups. Freshness, cleanliness, and health compliance are the most critical factors for perishable food, whereas cleanliness and pesticide-free status are the most critical for products like cereal and beans. One of the most essential features for the food product purchasing decision is the quality of food products. Still, people believe that the government and farmers should take more responsibility to ensure food is consumed safely. Following the conclusions of the studies looked at, the following hypothesis has been established:

H₅ Quality significantly and positively affects the attitude towards organic foods.

2.6 Attitude towards organic foods

Attitudes and behaviors play a significant role in determining consumer behavior. Attitude is a psychological construct consisting of consciousness, values, and emotions. If the individual's attitude towards the behavior of consuming organic products is positive, the purchase intention will increase. Therefore, a consumer's purchasing behavior concerning organic products can be accurately predicted from their attitudes (Unal, 2019). Despite the green trend in consumer values and attitudes, it is acknowledged that there are several barriers to the growth of ecologically friendly items such as organic food. Among the most common obstacles highlighted in the marketing literature are scepticism about the higher quality of organic foods, the consumer's reluctance to incur higher costs in terms of effort, time, and money, visual product quality and presentation, and the availability and unavailability of products (Tsakiridou et al., 2008).

Chiciudean et al. (2019) conducted a study with 568 consumers in the Northwest Development Region of Romania to identify the main barriers to organic food consumption. Although the survey claimed that the product's cost was the most significant barrier to consumption, it was ultimately determined that perishability and availability came in second.

Other elements include scepticism about organic food and a lack of organic food promotion. According to the study findings, a more effective communication plan is required to enlighten and educate customers on what organic food entails. Success in organic food depends on the consumer's acceptance and use of the product. Even though potential customers are aware of organic foods, they might not understand them or believe the wrong things about them (Briz & Ward, 2009).

According to Planned Behavior Theory, behavioral intention and individual behavior are significantly influenced by attitude. In other words, if the attitude towards the particular behavior is positive, the interest in performing that behavior will also be positive. Previous experiences with organic foods are believed to also affect attitudes positively toward organic products (Tsakiridou et al., 2008, 159).” Consumers who possess a favorable attitude towards green products tend to exhibit significantly higher intentions for green purchasing (Ruangkanjanases et al., 2020). The hypothesis was created as follows based on the results in the literature:

H₆ Attitude towards organic food significantly and positively affects the intention of purchasing organic food.

2.7 Organic food purchasing intention

The best indicator of actual behavior is the consumer's intention to purchase the product, and attitude toward behavior influences the consumer's intentions to purchase the product. Beliefs influence perceived attitudes about the product about the behavior and all its implications (Basha et al., 2015, 445). According to Gracia & Magistris (2007), purchase intention depends on attitudes and knowledge about organic products. Consumers with higher knowledge about organic products are more willing to buy organic food products. Briz & Ward (2009) investigated the views of Spanish consumers on organic food awareness and concluded that approximately 46% of the participants knew the concept of organic food. The survey also highlighted how this level of awareness varies by income, age, education, and geographic region of the nation.

Ustaahmetoglu & Toklu (2015) investigated the impact of attitude, health consciousness, and food safety on the intention to purchase organic food and concluded that, respectively, attitude towards organic food and food safety are the most significant influences on purchase intention. While it was noted that health consciousness did not influence purchase intent, there was a correlation between occupation and attitude toward organic products in connection to demographic characteristics and between gender and intention to buy organic products. Bolat et al., (2020) stated in their study that security and price perception directly affect purchase intention.

However, resorting to greenwashing by businesses has a negative impact on consumers' green purchasing behavior (Nyilasy et al., 2013; Chen et al., 2018; Zhang et al., 2018; Urbanski & Haque, 2020; Bulut et al., 2021). In their studies, Chen et al. (2016), Tarabieh (2021), Sun & Shi (2022), and Zhang et al. (2022) have concluded that consumers' perceptions of greenwashing have a direct negative effect on their intentions to engage in green purchasing. In a study involving 419 Vietnamese consumers who purchased green vegetables, Nguyen et al. (2019) indicated that green scepticism mediated the relationship between greenwashing and green purchasing intention. According to Guerreiro & Pacheco (2021), the deficiency in green trust caused by the perception of greenwashing diminishes consumers' intentions to engage in green purchasing. Chen et al. (2018) posit that

greenwashing is negatively related to green brand image and green brand loyalty. Similarly, Akturan (2018) has found that greenwashing negatively affects brand trust and reliability, indirectly influencing green purchasing intention.

3 Research methodology

3.1 Purpose and significance of the research

Since the turn of the millennium, there has been a growth in demand for organic food items across the globe due to rising consumer awareness of food quality and safety. However, the actual consumption of organic food is still low compared to non-organic food. For this reason, it is essential to study consumer behavior, especially consumers' attitudes toward purchasing organic food (Krishnakumare & Niranjana, 2017).

This study attempts to investigate how different factors, such as environmental awareness, food safety, price sensitivity, and quality sensitivity, interact to influence views about organic foods. The study will explore the ideas of health consciousness, environmental concern, food safety, price sensitivity, quality, attitude toward organic food, and purchasing intention, offering thorough insights into the body of literature that already exists on these topics. The study also clarifies the important impact that environmental concern plays in influencing consumer views toward organic food. This is accomplished by looking into the dynamic relationship between environmental concern and the greenwashing issue.

3.2 Data collection and sample

The research population consists of consumers over the age of 18 living in Türkiye. According to the sample sizes table suggested by Sekaran, a sample composed of 384 people can represent a population of over 10,000,000 (Sekaran, 1992). In this case, a convenience sampling strategy was used to select 425 customers who lived in Türkiye via an online survey administered through Google Forms. In addition to demographic questions, there are scales in the questionnaire that include questions created with a 5-point Likert Scale to measure health consciousness, environmental concern, food safety, price sensitivity, quality, attitude towards organic food, and intention to purchase organic food. Table 1 includes information on the number of statements of the scales and the studies from which they were adapted.

Table 1 Scales used in the survey form

Scales	Number of expressions	The study in which the scale was adapted
Health consciousness	4	Wee et al., (2014)
Environmental concern	3	Lee et al., (2019)
Food safety	4	Ueasangkomsate and Santiteerakul (2016)
Price sensitivity	3	Lee et al., (2019)
Quality	3	Wee et al., (2014)
Attitude towards organic foods	9	Chen, (2009)
Organic food purchasing intention	3	Wang et al., (2020)

4 Research model and hypothesis

The research model shows the effects of consumers' health consciousness, environmental concern, food safety, price sensitivity, and quality perceptions on their attitudes toward organic foods and purchase intention.

The model of the research was formed as in Fig. 1 by examining the studies in the literature following the purpose of the investigation, and the hypotheses developed within the framework of the model are expressed below:

H₁ Health consciousness positively and significantly affects the attitude toward organic foods.

H₂ Environmental concern significantly and positively affects the attitude towards organic foods.

H₃ Food safety significantly and positively affects the attitude towards organic foods.

H₄ Price sensitivity significantly and positively affects the attitude toward organic foods.

H₅ Quality significantly and positively affects the attitude toward organic foods.

H₆ Attitude towards organic food significantly and positively affects the intention of purchasing organic food.

5 Analysis and findings

5.1 Analysis of normality

In the study, since Structural Equation Modeling requires normal distribution, it was examined whether the scales showed a normal distribution. The data obtained from the

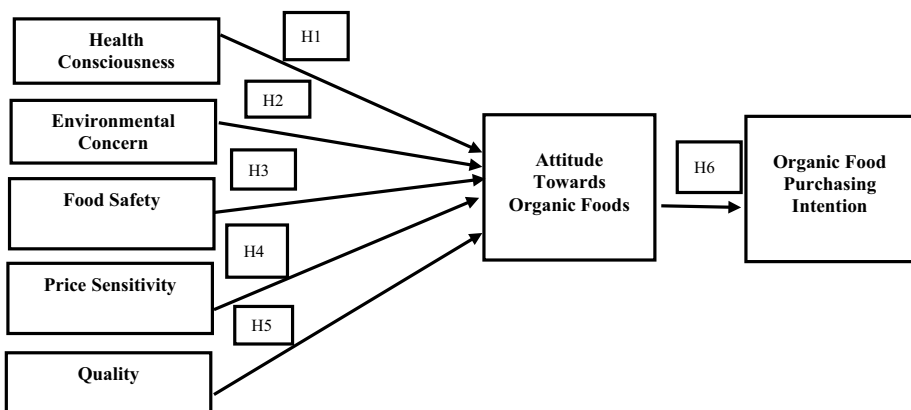


Fig. 1 Research model

respondents were analyzed through SPSS and AMOS package programs. The results are shown in Table 2.

5.2 The demographic characteristics of respondents

Table 3 displays the demographic distributions of the study's participants.

When the statistics regarding the participants in Table 3 are examined, it is seen that 70.8% of the participants are female and 29.2% are male. It is also seen that 27.5% of the participants are also in the 26–35 age group, and 69.6% are married. Considering the distribution of the participants according to their educational status and profession, the majority (40.5%) are bachelor's graduates, while 2.6% are secondary school graduates. Although 5.4% of the participants are self-employed, 24% are housewives, and 45.2% earn 4001 TL or more monthly income.

5.3 Reliability analysis

The Cronbach Alpha Coefficients of the scales were examined and shown in Table 4.

Table 4 shows that the scales are highly reliable because the Cronbach Alpha coefficients are 70 and above (Taber, 2018, 1278).

5.4 Confirmatory factor analysis

Before confirmatory factor analysis, “Harman’s Single Factor Test” was used to determine whether there is “Common Method Bias,” which is seen as a problem by many researchers in behavioral studies (Podsakoff et al., 2003). According to the test, when all scales are subjected to explanatory factor analysis, common method bias can be mentioned when determining that a single factor has a structure that explains more than 50% of the explained variance (Aguirre-Urreta & Hu, 2019). The explained variance value of a single factor obtained from the explanatory analysis of variance in the study was 42%. In this case, there is no common method bias in the research. “*Confirmatory*

Table 2 Test of normality

Scales	Mean	Standard error	Skewness	Kurtosis
Health consciousness	3.9935	.05549	− 1.591	1.648
Environmental concern	3.7741	.05449	− 1.087	.568
Food safety	3.8306	.05267	− 1.210	.118
Price sensitivity	3.2329	.04624	− .265	−.279
Quality	3.5294	.05155	− .771	.227
Attitude towards organic food	3.2858	.03110	− .838	1.114
Organic food purchasing intention	3.7600	.4942	− 1.247	1.317

“It can be concluded, on examining Table 2, that the scales exhibit a normal distribution considering the results. According to George and Mallery (2019), “A kurtosis value between ± 1.0 is considered excellent for most psychometric purposes, but a value between ± 2.0 is also acceptable in many cases, depending on the particular application”. On the other hand, Kline stated that the scales show a normal distribution as long as the absolute values of skewness are not greater than three and the absolute values of kurtosis are not greater than 10 (Kline, 2016, 76–77).”

Table 3 Demographic characteristics of the participants

Gender	Frequency	Percentage	Marital status	Frequency	Percentage
Female	301	70.8	Married	296	69.6
Male	124	29.2	Single	129	30.4
Total	425	100	Total	425	100
Age	Frequency	Percentage	Monthly income	Frequency	Percentage
25 years and under	58	13.6	2000 TL and below	91	21.4
26–35 years	117	27.5	2001–2500 TL	28	6.6
36–45 years	106	24.9	2501–3000 TL	45	10.6
46–55 years	94	22.1	3001–3500 TL	35	8.2
56 years and older	50	11.8	3501–4000 TL	34	8.0
Total	425	100	4001 TL and above	192	45.2
Occupation	Frequency	Percentage	Total	Frequency	Percentage
Student	56	13.2	Educational Status	Frequency	Percentage
Self-employed	23	5.4	Primary education	20	4.7
Housewife	102	24.0	Secondary education	11	2.6
Public employee	73	17.2	High school	88	20.7
Private sector employee	73	17.2	Associate degree	69	16.2
Retired	48	11.3	Bachelors degree	172	40.5
Academician	11	2.6	Master's degree	52	12.2
Other	39	9.1	Doctorate	13	3.1
Total	425	100	Total	425	100

Table 4 Cronbach Alpha Coefficients of the Scales

Scales	Cronbach alpha coefficient
Health consciousness	0.954
Environmental concern	0.922
Food safety	0.931
Price sensitivity	0.737
Quality	0.903
Attitude toward organic food	0.733
Organic food purchasing intention	0.946

factor analysis is carried out to confirm the accuracy of a scale or model that has been previously developed in other studies or has a theoretical basis, with total data (Gurbuz, 2021, 54). The goodness-of-fit results of the research model are given in Table 5. Within the scope of the analysis, the statements due to their low factor loading, the attitudes towards organic foods, “There is dishonesty in organic foods,” and “It is fashionable to consume organic food” were removed from the analysis.

The goodness of fit values demonstrates that the model and the data are compatible. The factor loadings of the variables that are not observed in the model are displayed in Table 6.

Table 5 Confirmatory factor analysis goodness of model fit results

Fit indexes	Research model	Perfect fit	Good fit
X^2/DF	2.959	$0 \leq x^2/df \leq 3.00$	$3 \leq x^2/df \leq 5.00$
CFI	0.932	$0.95 \leq CFI \leq 1.00$	$0.90 \leq CFI \leq 0.95$
RMSEA	0.070	$0 \leq RMSEA \leq 0.05$	$0.05 \leq RMSEA \leq 0.08$
NFI	0.909	$0.95 \leq NFI \leq 1.00$	$0.90 \leq NFI \leq 0.95$
IFI	0.933	$0.95 \leq IFI \leq 1.00$	$0.90 \leq IFI \leq 0.95$
GFI	0.901	$0.90 \leq GFI \leq 1.00$	$0.90 \leq GFI \leq 0.95$
AGFI	0.892	$0.90 \leq AGFI \leq 1.00$	$0.85 \leq AGFI \leq 0.90$

Table 6 Factor loads

Variables	Factor loads	Variables	Factor loads
SB4 ← Health Consciousness	0.956	KA3 ← Quality	0.822
SB3 ← Health Consciousness	0.909	KA2 ← Quality	0.857
SB2 ← Health Consciousness	0.919	KA1 ← Quality	0.932
SB1 ← Health Consciousness	0.881	TU1 ← Attitude	0.913
CB3 ← Environmental Concern	0.831	TU2 ← Attitude	0.895
CB2 ← Environmental Concern	0.959	TU4 ← Attitude	0.763
CB1 ← Environmental Concern	0.902	TU5 ← Attitude	0.026
GG4 ← Food Safety	0.888	TU6 ← Attitude	0.613
GG3 ← Food Safety	0.802	TU7 ← Attitude	0.649
GG2 ← Food Safety	0.903	TU8 ← Attitude	0.591
GG1 ← Food Safety	0.910	SAN1 ← Purchase intention	0.921
FD3 ← Price Sensitivity	0.942	SAN2 ← Purchase intention	0.949
FD2 ← Price Sensitivity	0.880	SAN3 ← Purchase intention	0.906
FD1 ← Price Sensitivity	0.571		

Table 7 Convergent-divergent validity and convergent validity

	CR	AVE	Attitude	SB	CB	GG	FD	KA	SAN
TU	0.789	0.501	0.872						
SB	0.955	0.840	0.793	0.917					
CB	0.926	0.808	0.801	0.759	0.899				
GG	0.930	0.769	0.863	0.815	0.861	0.877			
FD	0.800	0.600	0.500	0.355	0.425	0.413	0.775		
KA	0.904	0.759	0.918	0.704	0.740	0.813	0.478	0.871	
SAN	0.947	0.857	0.870	0.713	0.722	0.771	0.478	0.748	0.926

The validity of convergent, divergent, and discriminant was also examined. The findings are given in Table 7 to evaluate the reliability of the research model.

Fornell & Larcker’s (1981) method was used to determine the convergent, divergent, and discriminant validity of the scales used in the research. According to the findings in Table 7, it can be stated that the scales used ensure convergent validity since the “average explained variance values (AVE)” are over 0.50 and the “composite reliability values (CR)” are over 0.70. It can also be said that since the square root of AVE values (given bold in the Table 7) is greater than the correlation values, it provides discriminant validity (Hair et al., 2010, 663).

5.5 Hypotheses tests

The Structural Equation Model created in the AMOS package program to test the hypotheses is represented in Fig. 2.

T-test results and significance levels for the regression coefficients obtained from the path analysis were examined to determine whether the hypotheses established within the research scope were accepted. As a result of the hypothesis test, the goodness of fit values

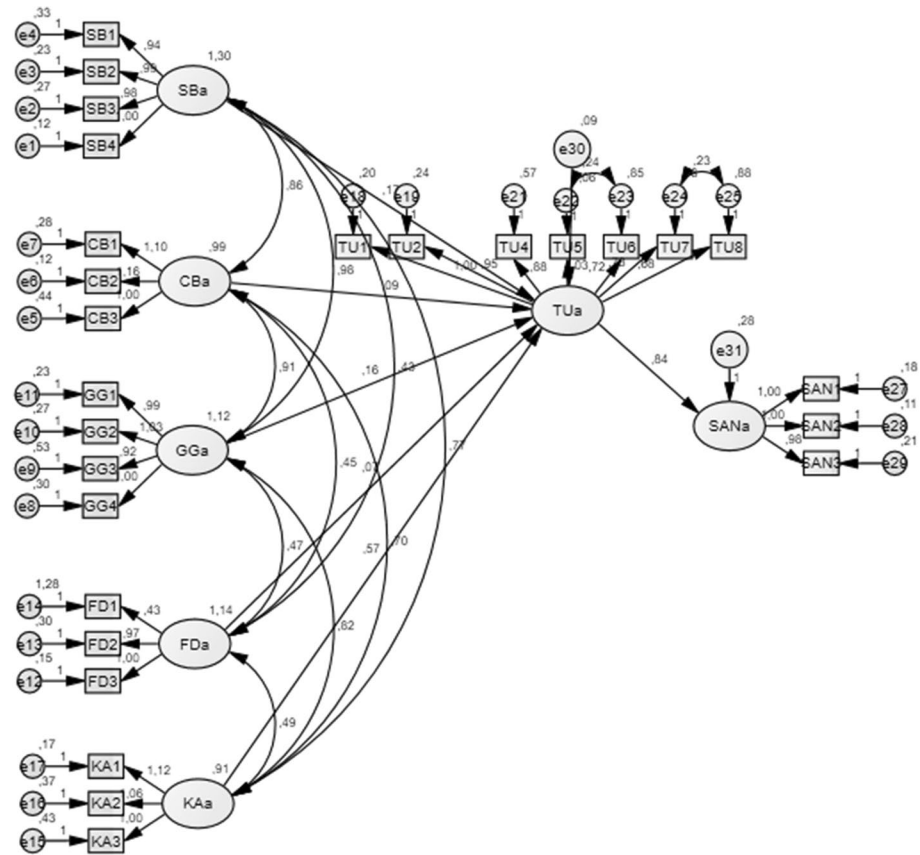


Fig. 2 Structural equation model

Table 8 Structural equation model coefficients

Hypothesis	Variables	β	<i>S.E</i>	R^2	<i>T</i>	<i>p</i>	Result
H ₁	Attitude ← Health Consciousness	0.167	0.037	0.190	4.539	0.000	Supported
H ₂	Attitude ← Environmental Concern	0.088	0.051	0.087	1.712	0.087	Not Supported
H ₃	Attitude ← Food safety	0.163	0.064	0.172	2.557	0.011	Supported
H ₄	Attitude ← Price sensitivity	0.071	0.025	0.076	2.841	0.004	Supported
H ₅	Attitude ← Quality	0.568	0.053	0.540	10.696	0.000	Supported
H ₆	Purchase intention ← Attitude	0.844	0.038	0.847	22.347	0.000	Supported

of the scales were $CMIN/DF=2.829$; $GFI=0.902$; $CFI=0.931$; $RMSEA=0.72$, and it can be said that the model and the data are compatible (Schermelleh-Engel et al., 2003, 52). The results are shown in Table 8.

When the coefficients related to the Structural Equation Model in Table 8 are examined, “H₁: Health consciousness has a positive and significant effect on the attitude towards organic food”, “H₃: Food safety has a significant and positive effect on the attitude towards organic food”, “H₄: Price sensitivity has a significant and positive effect on the attitude towards organic food”, “H₅: Quality has a significant and positive effect on the attitude towards organic food”, “H₆: Attitude towards organic food has a significant and positive effect on the intention to purchase organic food” hypotheses were supported.” In contrast, the hypothesis of “H₂: Environmental concern has a significant and positive effect on attitudes towards organic foods” was not supported ($p > 0.005$).

6 Discussion points and conclusions

To meet the growing demand for organic foods, managers and marketers must comprehend why customers prefer organic foods to traditional foods and appropriately develop their marketing strategies (Carolina et al., 2017). Market success depends on knowledge of relevant consumers’ buying behavior to target marketing efforts to their needs. From this perspective, it was intended to investigate the effects of elements such as health consciousness, environmental concern, food safety, price sensitivity, and quality, which are believed to affect attitudes toward organic foods, on those attitudes and to ascertain whether those attitudes have an impact on the intention to purchase organic foods. To ascertain this, a convenience sampling strategy was used to administer an online survey through Google Forms to 425 customers in Türkiye. A research model was developed per the purpose of the research, and five of the hypotheses formed within the framework of this model were accepted, while one was rejected. The model was first conducted for confirmatory factor analysis, and the analysis’s findings showed that the model was indeed valid. Path analysis and hypothesis tests were applied in Structural Equation Modeling to evaluate the hypotheses developed afterwards.

According to the analysis’s findings, hypothesis “H₁: Health consciousness significantly and positively affects the attitude towards organic foods” is supported. In consumers’ minds, organic food’s healthiness is its most outstanding quality. Health concerns are considered the most crucial justification for purchasing and consuming organic food because they play an essential role in influencing consumer purchase decisions

(Tsakiridou et al., 2008; Suanmali, 2020;). There is much research on this topic in the literature (Tregear et al., 1994; Zanolli & Naspetti, 2002; Chinnici et al., 2002; Lockie et al., 2002; Magnusson et al., 2003; Padel & Foster, 2005; Gracia & Magistris, 2007; Urena et al., 2008; Michaelidou & Hassan, 2008; Chen, 2009; Kriwy & Mecking, 2012; Xie et al., 2015; Teng & Lu, 2016; Ueasangkomsate & Santiteerakul, 2016; Krishnakumare & Niranjana, 2017; Aslam & Hong, 2019; Nagaraj, 2021) Health is cited as the primary factor in organic food purchases, and it is also suggested that there is a strong correlation between the use of organic products and health consciousness. In their study with 2000 Swedish customers, Magnusson et al. (2003) stressed that health knowledge affects the intention and attitude of purchasing organic products. Although the study claimed that many consumers place a high value on health as a criterion and quality parameter, there are also signs that altruistic motive (moral responsibility for the environment) has little influence on behavior. This outcome also lends credence to the H₂ hypothesis within the study's parameters. The hypothesis of "H₂: Environmental concern significantly and positively affects the attitude towards organic foods" is not supported. This finding is supported by the investigation of Truong et al. (2012) into Vietnamese consumers' perceptions of organic products. They found that environmental concerns and sustainability did not influence customers' purchase behavior. Bulut et al. (2021) found that greenwashing has a moderating role between environmental concern and green purchasing behavior. In fact, the perception of greenwashing reduces the effects of environmental concern on green behavior. The reason why environmental concern does not affect the attitude towards organic foods may be due to the consumer's perception of greenwashing.

When studies from the literature (Michaelidou et al., 2008; Tsakiridou et al., 2008; Erdal & Turhan, 2020) are examined, it has been determined that one of the most crucial factors for consumers to purchase organic food products is food safety, and this conclusion is similar to the findings of the present study. The hypothesis "H₃: Food safety significantly and positively affects the attitude towards organic foods" was supported. According to Bolat et al. (2020), consumers believe that safe foods benefit their health.

The hypothesis "H₄: Price sensitivity significantly and positively affects the attitude towards organic foods" was supported. Similar findings have been found in numerous studies published in the literature (Jolly, 1991; Gil et al., 2000; Akgungor et al., 2001; Sarıkaya, 2007; Tsakiridou et al., 2008; Shaharudin et al., 2010; Shafie & Rennie, 2012; Haghjou et al., 2013; Gupta, 2016; Chiciudean et al., 2019). According to reports, consumers are prepared to spend more on organic goods. According to, Gil et al. (2000), Lohr & Park (2003) and Bai et al. (2019), when income and education levels rise, people's awareness of ecological agriculture increases and they tend to consume healthy products.

The hypothesis "H₅: Quality significantly and positively affects the attitude towards organic food" was supported. In Pellegrini and Farinello's study (2009), participants believe that organic food is produced without GMOs, contains more nutritional content, and has fewer additives. The findings of this study are supported by the fact that customers mention that ensuring food quality is one of the main reasons they buy organic food. Similarly, Basha et al., (2015) noted that higher product quality creates a positive attitude toward the intention to purchase organic foods.

The hypothesis "H₆: Attitude towards organic food significantly and positively affects the intention to purchase organic food" was also supported. According to earlier research (Magnusson et al., 2003; Tarkiainen & Sundqvist, 2005; Yazdanpanah & Forouzani, 2015; Yadav & Pathak, 2016; Aslam & Hong, 2018; Ferreira & Pereira, 2023), views about organic food are a strong determinant of intentions to purchase organic food. However,

Magnusson et al. (2001) have indicated that positive attitudes do not necessarily translate into ultimate purchase intentions.

From this point of view, it can be concluded that it is crucial to raise consumer awareness and information about this issue by highlighting the advantages of organic foods for the environment and public health through mass media such as television, newspapers, magazines, and the internet.

It is obvious that the rising demand for environmentally friendly products is largely driven by environmental concerns, even though our findings do not demonstrate that environmental concerns are a primary driver of consumer attitudes. In fact, as a byproduct of our analysis, this finding explains why businesses are engaged in greenwashing and attempt to take advantage of the expanding market for environmentally friendly goods. In some cases, companies may use labels or certifications that are designed to mimic legitimate organic certifications, but that have no real meaning or standards. Therefore, companies may be motivated to engage in greenwashing to take advantage of the growing demand for sustainable products, but they may also risk damaging their reputation if consumers discover that their claims are not genuine.

On the other hand, as is mentioned earlier, the presence of greenwashing could potentially undermine the correlation between environmental concern and the intention to purchase green products, like organic foods. Consumers might be sceptical about a company's claims of being environmentally friendly, leading them to doubt the authenticity of the products being marketed as "green." The suspicion or belief that a company might be exaggerating its environmental claims—can actually weaken the impact of environmental concern on consumer attitudes and behaviors, particularly in relation to purchasing organic foods. It is obvious that greenwashing moderates the relationship between environmental concern and green consumption. So future research can contribute to the understanding of the interplay between greenwashing, demand for environmentally friendly goods and consumers' environmental concerns. Future researchers may investigate if sociodemographic characteristics affect the association between environmental concern, intention to buy organic products, and greenwashing. While it is possible to study the mediating roles of topics like perceived risk and green trust in the relationship between the intention to buy organic products and greenwashing, additional research can be carried out by combining qualitative and quantitative research approaches.

According to many other studies in the literature, the most significant barriers to purchase that negatively affect the intention to buy organic food are the high price of organic products compared to the prices of traditional food products, uncertainty about the product, and availability of the product (Fotopoulos & Krystallis, 2002; Chinnici et al., 2002; O'Donovan & McCarthy, 2002; Zanolli & Naspetti, 2002; Michaelidou & Hassan, 2008; Demirtas et al., 2015; Unal et al., 2019; Kashif et al., 2020).

Organic foods will become considerably more popular in customers' eyes if growers are trained to avoid using chemical pesticides and synthetic fertilizers in modern agriculture operations. Additionally, promoting organic agriculture and conducting research in R&D will lower the price of organic products and increase the number of organic producers. The sale of organic foods not only in local markets but also in many other locations, such as supermarkets, will lead consumers to organic foods and, as a result, organic product consumers will not have to spend additional time and effort to access these foods, as the ease of the product's availability is seen as one of the crucial factors affecting the purchase intention. In addition, increasing accessibility and organic food varieties will increase competition and the possibility of finding products at more affordable prices for the consumer. Promotions to be made by businesses about the

benefits of organic foods to consumers will also positively impact consumer awareness. Future research will consider this situation and study factors such as accessibility and a healthy lifestyle in the context of consumers with various sociodemographic characteristics. Also, in this study, the effect of attitude towards organic food on organic food purchase intention was investigated. Future research will shed new light by examining how intentions to purchase affect purchasing behavior.

The primary limitation of this research lies in the data collection process, which employed a convenience sampling method due to constraints related to cost and time. Consequently, the ability to generalize the research findings is limited. To mitigate this concern, employing random sampling in future studies could provide more representative results. Additionally, the geographical scope of this research was confined to Turkey. To enhance the robustness of findings, it would be valuable to conduct future studies across various countries, facilitating comparative analysis.

Author contributions LLK: Conceptualization, investigation, methodology, formal analysis, visualization; writing the original draft; ZSU: Investigation, review and editing; writing the original draft; made suggestions manuscript; TDA: Conceptualization, investigation, methodology, formal analysis; writing the original draft.

Funding This research didn't receive any financial support.

Data availability Available upon request from the authors.

Declarations

Conflict of interest The authors declare that they have no competing interests.

Ethical approval The ethical and moral issues related to this research is not related to the journal, and the authors and their organization assume ethical and moral responsibility.

Consent for publication The authors declare that all authors of this article have given their knowledge and consent to the publication of the paper.

References

- Aguirre-Urreta, M. I., & Hu, J. (2019). Detecting common method bias: Performance of the Harman's Single-Factor Test. *ACM SIGMIS Database: The DATABASE for Advances in Information Systems*, 50(2), 45–70. <https://doi.org/10.1145/3330472.3330477>
- Akgungor, S., Miran, B., & Abay, C. (2001). Consumer willingness to pay for food safety labels in Urban Turkey: A case study of pesticide residues in tomatoes. *Journal of International Food & Agribusiness Marketing*, 12, 91–107. https://doi.org/10.1300/J047v12n01_05
- Akturan, U. (2018). How does greenwashing affect green branding equity and purchase intention? An empirical research. *Marketing Intelligence & Planning*, 36(7), 809–824. <https://doi.org/10.1108/MIP-12-2017-0339>
- Angulo, A. M., Gil, J. M., & Tamburo, L. (2005). Food safety and consumers' willingness to pay for labelled beef in Spain. *Journal of Food Products Marketing*, 11(3), 89–105. https://doi.org/10.1300/J038v11n03_06
- Arvola, A., Vassallo, M., Dean, M., Lampila, P., Saba, A., Lähteenmäki, L., & Shepherd, R. (2008). Predicting intentions to purchase organic food: The role of affective and moral attitudes in the theory of planned behaviour. *Appetite*, 50(2), 443–454. <https://doi.org/10.1016/j.appet.2007.09.010>
- Aslam, W., & Hong, C. (2019). Study on consumer behaviour and food safety of organic products in Pakistan. In *E3S Web of Conferences* (Vol. 78, p. 02021). <https://doi.org/10.1051/e3sconf/20197802021>

- Bai, L., Wang, M., & Gong, S. (2019). Understanding the antecedents of organic food purchases: The important roles of beliefs, subjective norms, and identity expressiveness. *Sustainability*, *11*(11), 3045. <https://doi.org/10.3390/su11113045>
- Basha, M. B., Mason, C., Shamsudin, M. F., Hussain, H. I., & Salem, M. A. (2015). Consumers attitude towards organic food. *Procedia Economics and Finance*, *31*, 444–452. [https://doi.org/10.1016/S2212-5671\(15\)01219-8](https://doi.org/10.1016/S2212-5671(15)01219-8)
- Bolat, B. A., Kaygısız, F., & Bulut, D. (2020). How consumers' consciousness and perception levels affect purchase intention of organic chicken meat in Turkey. *Turkish Journal of Veterinary and Animal Sciences*, *44*, 1306–1315. <https://doi.org/10.3906/vet-2005-53>
- Boncinelli, F., Gerini, F., Piracci, G., Bellia, R., & Casini, L. (2023). Effect of executional greenwashing on market share of food products: An empirical study on green-coloured packaging. *Journal of Cleaner Production*, *391*, 136258. <https://doi.org/10.1016/j.jclepro.2023.136258>
- Briz, T., & Ward, R. W. (2009). Consumer awareness of organic products in Spain: An application of multi-nominal logit models. *Food Policy*, *34*, 295–304. <https://doi.org/10.1016/j.foodpol.2008.11.004>
- Bulut, C., Nazlı, M., Aydın, E., & Haque, A. U. (2021). The effect of environmental concern on conscious green consumption of post-millennials: The moderating role of greenwashing perceptions. *Young Consumers*, *22*(2), 306–319. <https://doi.org/10.1108/YC-10-2020-1241>
- Carolina, A., Diana, G., Helena, G.M., & Jesús, G.D.M. (2017). Why consumers purchase organic products? the role of environment. In *Health and Age, XXIX Congreso De Marketing Aemark*, pp 36–50.
- Chen, Y. S., Tien, W. P., Lee, Y. I., & Tsai, M. L. (2016). Greenwash and green brand equity. In *2016 Portland international conference on management of engineering and technology (PICMET)* pp. 1797–1803. <https://doi.org/10.1109/PICMET.2016.7806783>
- Chen, M. F. (2009). Attitude toward organic foods among Taiwanese as related to health consciousness, environmental attitudes, and the mediating effects of a healthy lifestyle. *British Food Journal*, *111*(2), 165–178. <https://doi.org/10.1108/00070700910931986>
- Chen, Y. S., Huang, A. F., Wang, T. Y., & Chen, Y. R. (2018). Greenwash and green purchase behavior: The mediation of green brand image and green brand loyalty. *Total Quality Management Business Excellence*, *31*(4), 1–16. <https://doi.org/10.1080/14783363.2018.1426450>
- Chiciudean, G. O., Harun, R., Ilea, M., Chiciudean, D. I., Arion, F. H., Ilies, G., & Muresan, I. C. (2019). Organic food consumers and purchase intention: A case study in Romania. *Agronomy*, *9*(145), 1–13. <https://doi.org/10.3390/agronomy9030145>
- Chinnici, G., D'Amico, M., & Pecorino, B. (2002). A multivariate statistical analysis on the consumers of organic products. *British Food Journal*, *104*(3/4/5), 187–199. <https://doi.org/10.1108/00070700210425651>
- Delmas, M. A., & Burbano, V. C. (2011). The drivers of greenwashing. *California Management Review*, *54*(1), 64–87. <https://doi.org/10.1525/cm.2011.54.1.64>
- Demirtaş, B., Parlakay, O., & Tapki, N. (2015). Organic food awareness in Turkey. *Emirates Journal of Food and Agriculture*, *27*(5), 407–415. <https://doi.org/10.9755/ejfa.2015.04.029>
- Dipeolu, A. O., Philip, B. B., Aiyelaagbe, I. O. O., Akinbode, S. O., & Adedokun, T. A. (2009). Consumer awareness and willingness to pay for organic vegetables in SW Nigeria. *Asian Journal of Food and Agro-Industry*, *10*(11), 57–65. <https://doi.org/10.4314/ajfand.v10i11.64282>
- Ende, L., Reinhard, M. A., & Göritz, L. (2023). Detecting greenwashing! The influence of product colour and product price on consumers' detection accuracy of faked bio-fashion. *Journal of Consumer Policy*, *46*, 155–189. <https://doi.org/10.1007/s10603-023-09537-8>
- Erdal, B., & Turhan, Ş. (2020). Consumer behaviour and purchase intention for organic food. *Journal of Biological & Environmental Sciences*, *14*(40), 17–23.
- Eti Icli, G., Anil, N. K., & Kılıç, B. (2016). Tüketicilerin organik gıda satın alma tercihlerini etkileyen faktörler. *Kırklareli Üniversitesi İktisadi Ve İdari Bilimler Fakültesi Dergisi*, *5*(2), 93–108.
- Ferreira, S., & Pereira, O. (2023). Antecedents of consumers' intention and behavior to purchase organic food in the Portuguese context. *Sustainability*, *15*, 9670. <https://doi.org/10.3390/su15129670>
- Flynn, K., Villarreal, B. P., Barranco, A., Belc, N., Björnsdottir, B., Fusco, V., Rainieri, S., Smaradottir, E., Smeu, I., Teixeira, P., & Jörnsdottir, H. O. (2019). An introduction to current food safety needs. *Trends in Food Science & Technology*, *84*, 1–3. <https://doi.org/10.1016/j.tifs.2018.09.012>
- Fornell, C., & Lacker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1), 39–50. <https://doi.org/10.1177/002224378101800104>
- Fotopoulos, C., & Krystallis, A. (2002). Purchasing motives and profile of the Greek organic consumer: A countrywide survey. *British Food Journal*, *104*(8/9), 730–765. <https://doi.org/10.1108/00070700210443110>

- George, D., & Mallery, P. (2019). IBM SPSS Statistics 26 Step by Step: A simple guide and reference. *Routledge*. <https://doi.org/10.4324/9780429056765>
- Ghalawat, S., Parmar, S., Mehla, S., & Girdhar, A. (2019). A consumer awareness study towards purchasing of organic products in Hisar City. *Library Philosophy and Practice (e-journal)*, p.3587. <https://digit.alcommons.unl.edu/libphilprac/3587>
- Gil, J. M., Gracia, A., & Sanchez, M. (2000). Market segmentation and willingness to pay for organic products in Spain. *International Food and Agribusiness Management Review*, 3, 207–226. [https://doi.org/10.1016/S1096-7508\(01\)00040-4](https://doi.org/10.1016/S1096-7508(01)00040-4)
- Govindasamy, R., Arumugam, S., Vellanganya, I., & Ozkan, B. (2018). Willingness to pay a high-premium for fresh organic produce: An econometric analysis. *Agricultural Economics Research Review*, 31(1), 45–52. <https://doi.org/10.5958/0974-0279.2018.00004.6>
- Gracia, A., & Magistris, T. D. (2007). Organic food product purchase behaviour: A pilot study for urban consumers in the south of Italy. *Spanish Journal of Agricultural Research*, 5(4), 439–451. <https://doi.org/10.5424/sjar/2007054-5356>
- Grassi, S. (2008). *Public and private provision under asymmetric information: Ability to pay and willingness to pay*. European University Institute, Max Weber Programme Via delle Fontanelle, 10 I-50014 San Domenico. <http://www.iae.csic.es/investigatorsMaterial/a923109492351972.pdf>
- Guerreiro, J., & Pacheco, M. (2021). How green trust, consumer brand engagement and green word-of-mouth mediate purchasing intentions. *Sustainability*, 13(7877), 1–13. <https://doi.org/10.3390/su13147877>
- Guo, R., Tao, L., Li, C. B., & Wang, T. (2017). A path analysis of greenwashing in a trust crisis among Chinese energy companies: The role of brand legitimacy and brand loyalty. *Journal of Business Ethics*, 140, 523–536. <https://doi.org/10.1007/s10551-015-2672-7>
- Gupta, A. (2016). Exploring Indian consumer organic food purchase behaviour. *Intercontinental Journal of Marketing Research Review*, 4(6), 1–4.
- Gurbuz, S. (2021). *Amos ile yapısal eşitlik modellemesi temel ilkeler ve uygulamalı analizler*, 2. Baskı, Ankara/Seçkin Yayıncılık.
- Haghjou, M., Hayati, B., Pishbahar, E., Mohammadrezaei, R., & Dashti, Gh. (2013). Factors affecting consumers' potential willingness to pay for organic food products in Iran: Case study of Tabriz. *Journal of Agricultural Science and Technology*, 15(2), 191–202.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis a global perspective* (7th ed.). Pearson Prentice Hall.
- Honkanen, P., Verplanken, B., & Olsen, S. O. (2006). Ethical values and motives driving organic food choice. *Journal of Consumer Behaviour*, 5(5), 420–430. <https://doi.org/10.1002/cb.190>
- Horiuchi, R., Schuchard, R., Shea, L., & Townsend, S. (2009). *Understanding and preventing greenwash: A business guide* (pp. 1–39). Futerra Sustainability Communications.
- Inan, R., Bekar, A., & Uurlu, H. (2021). Tüketicilerin organik gıda satın alma davranışları ve tutumlarına ilişkin bir değerlendirme. *Journal of Tourism and Gastronomy Studies*, 9(1), 220–235. <https://doi.org/10.21325/jotags.2021.786>
- Jakubczak, A., & Gotowska, M. (2020). Green consumerism vs. greenwashing. *European Research Studies Journal*, Volume XXIII, Special Issue, 2, 167–181.
- Jolly, D. A. (1991). Differences between buyers and nonbuyers of organic produce and willingness to pay organic price premiums. *Journal of Agribusiness*, 9, 97–111. <https://doi.org/10.22004/ag.econ.62304>
- Junior, S. B., Martínez, M. P., Correa, C. M., Moura-Leite, R. C., & Silva, D. D. (2019). Greenwashing effect, attitudes, and beliefs in green consumption. *RAUSP Management Journal*, 54(2), 226–241. <https://doi.org/10.1108/RAUSP-08-2018-0070>
- Kashif, U., Hong, C., Naseem, S., Khan, W. A., & Akram, M. W. (2020). Consumer preferences toward organic food and the moderating role of knowledge: A case of Pakistan and Malaysia, Ciência Rural, Santa Maria. *Food Technology*, 50(5), 1–13. <https://doi.org/10.1590/0103-8478cr20190842>
- Kim, Y., & Choi, S. (2005). Antecedents of green purchase behaviour: An examination of collectivism, environmental concern, and perceived consumer effectiveness. *Advances in Consumer Research*, 32, 592–599.
- Klabi, F., & Binzafrah, F. (2022). The mechanisms for influencing green purchase intention by environmental concern: The roles of self-green image congruence and green brand trust. *South Asian Journal of Management*, 16(1), 76–101. <https://doi.org/10.21621/sajms.2022161.05>
- Kline, R. B. (2016). *Principles and practice of structural equation modeling*. Guilford Publications.
- Koenig-Lewis, N., Palmer, A., Dermody, J., & Urbye, A. (2014). Consumers' evaluations of ecological packaging—rational or emotional? *Journal of Environmental Psychology*, 37(March), 94–105. <https://doi.org/10.1016/j.jenvp.2013.11.009>

- Konuk, F. A. (2018). The role of store image, perceived quality, trust and perceived value in predicting consumers' purchase intentions towards organic private label food. *Journal of Retailing Consumer Service*, 43, 304–310. <https://doi.org/10.1016/j.jretconser.2018.04.011>
- Krishnakumare, B., & Niranjana, S. (2017). Consumers' buying behaviour towards organic food products in Tamil Nadu. *Agricultural Economics Research Review*, 30(1), 133–138. <https://doi.org/10.5958/0974-0279.2017.00012.X>
- Kriwy, P., & Mecking, R. A. (2012). Health and environmental consciousness, costs of behaviour and the purchase of organic food. *International Journal of Consumer Studies*, 36(1), 30–37. <https://doi.org/10.1111/j.1470-6431.2011.01004.x>
- Krystallis, A., & Chrysosoidis, G. M. (2005). Consumers' willingness to pay for organic food: Factors that affect it and variation per organic product type. *British Food Journal*, 107(5), 320–343. <https://doi.org/10.1108/00070700510596901>
- Kushwah, S., Dhir, A., Sagar, M., & Gupta, B. (2019). Determinants of organic food consumption. A systematic literature review on motives and barriers. *Appetite*, 143, 104402. <https://doi.org/10.1016/j.appet.2019.104402>
- Lea, E., & Worsley, T. (2005). Australians' organic food beliefs, demographics and values. *British Food Journal*, 107(11), 855–869. <https://doi.org/10.1108/00070700510629797>
- Lockie, S., Lyons, K., Lawrence, G., & Mummery, K. (2002). Eating 'green': Motivations behind organic food consumption in Australia. *Sociologia Ruralis*, 42(1), 23–40. <https://doi.org/10.1111/1467-9523.00200>
- Lohr, L., & Park, T. A. (2003). Improving extension effectiveness for organic clients: current status and future directions. *Journal of Agricultural and Resource Economics*, 28(3), 634–650.
- Magnusson, M., Arvola, A., Hursti, U., Åberg, L., & Sjoden, P. (2001). Attitudes towards organic foods among Swedish consumers. *British Food Journal*, 103(3), 209–226. <https://doi.org/10.1108/00070700110386755>
- Magnusson, M. K., Arvola, A., Hursti, U. K. K., Åberg, L., & Sjöden, P. O. (2003). Choice of organic foods is related to perceived consequences for human health and to environmentally friendly behaviour. *Appetite*, 40(2), 109–117. [https://doi.org/10.1016/S0195-6663\(03\)00002-3](https://doi.org/10.1016/S0195-6663(03)00002-3)
- Mann, S., Ferjani, A., & Reissig, L. (2012). What matters to consumers of organic wine? *British Food Journal*, 114(2), 272–284. <https://doi.org/10.1108/00070701211202430>
- McEachern, M. G., & McClean, P. (2002). Organic purchasing motivation and attitudes: Are they ethical. *International Journal of Consumer Studies*, 26, 85–92. <https://doi.org/10.1046/j.1470-6431.2002.00199.x>
- Michaelidou, N., & Hassan, L. M. (2008). The role of health consciousness, food safety concern and ethical identity on attitudes and intentions towards organic food. *International Journal of Consumer Studies*, 32(2), 163–170. <https://doi.org/10.1111/j.1470-6431.2007.00619.x>
- Mohamed, M. A., Chymis, A., & Shelaby, A. A. (2012). Determinants of organic food consumption in Egypt. *International Journal of Economics and Business Modelling*, 3(3), 183–191.
- Muhammad, S., Fathelrahman, E., & Ullah, R. U. T. (2015). Factors affecting consumers' willingness to pay for certified organic food products in United Arab Emirates. *Journal of Food Distribution Research*, 46(1), 37–45. <https://doi.org/10.22004/ag.econ.199045>
- Nagaraj, S. (2021). Role of consumer health consciousness, food safety & attitude on organic food purchase in emerging market: A serial mediation model. *Journal of Retailing and Consumer Services*, 59, 102423. <https://doi.org/10.1016/j.jretconser.2020.102423>
- Nekmahmud, M., & Fekete-Farkas, M. (2020). Why not green marketing? Determinates of consumers' intention to green purchase decision in a new developing nation. *Sustainability*, 12, 7880. <https://doi.org/10.3390/su12197880>
- Netto, S. V. D. F., Sobral, M. F. F., Ribeiro, A. R. B., & Soares, G. R. D. L. (2020). Concepts and forms of greenwashing: A systematic review. *Environmental Sciences Europe*, 32(19), 1–12. <https://doi.org/10.1186/s12302-020-0300-3>
- Newton, J. D., Tsarenko, Y., Ferraro, C., & Sands, S. (2015). Environmental concern and environmental purchase intentions: The mediating role of learning strategy. *Journal of Business Research*, 68(9), 1974–1981. <https://doi.org/10.1016/j.jbusres.2015.01.007>
- Nguyen, T. T. H., Yang, Z., Nguyen, N., Johnson, L. W., & Cao, T. K. (2019). Greenwash and green purchase intention: The mediating role of green skepticism. *Sustainability*, 11(9), 2653. <https://doi.org/10.3390/su11092653>
- Nyilasy, G., Gangadharbatla, H., & Paladino, A. (2013). Perceived greenwashing: The interactive effects of green advertising and corporate environmental performance on consumer reactions. *Journal Business Ethics*, 125, 693–707.

- O'Donovan, P., & McCarthy, M. (2002). Irish consumer preference for organic meat. *British Food Journal*, 104(3/4/5), 353–370. <https://doi.org/10.1108/00070700210425778>
- Padel, S., & Foster, C. (2005). Exploring the gap between attitudes and behaviour: Understanding why consumers buy or do not buy organic food. *British Food Journal*, 107(8), 606–625. <https://doi.org/10.1108/00070700510611002>
- Pellegrini, G., & Farinello, F. (2009). Organic consumers and new lifestyles an Italian country survey on consumption patterns. *British Food Journal*, 111(9), 948–974. <https://doi.org/10.1108/00070700910992862>
- Pizzetti, M., Gatti, L., & Seele, P. (2021). Firms talk, suppliers walk: Analyzing the locus of greenwashing in the blame game and introducing 'vicarious greenwashing.' *Journal of Business Ethics*, 170, 21–38. <https://doi.org/10.1007/s10551-019-04406-2>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Radman, M. (2005). Consumer consumption and perception of organic products in Croatia. *British Food Journal*, 107(4), 263–273. <https://doi.org/10.1108/00070700510589530>
- Rahbar, E., & Wahid, A. N. (2011). Investigation of green marketing tools' effect on consumers' purchase behavior. *Business Strategy Series*, 12(2), 73–83. <https://doi.org/10.1108/17515631111114877>
- Rahnama, H. (2017). Effect of consumption values on women's choice behavior toward organic foods: The case of organic yogurt in Iran. *Journal of Food Products Marketing*, 23(2), 144–166. <https://doi.org/10.1080/10454446.2017.1244790>
- Ramus, C. A., & Montiel, I. (2005). When are corporate environmental policies a form of greenwashing? *Business & Society*, 44(4), 377–414. <https://doi.org/10.1177/0007650305278120>
- Rezai, G., Kit Teng, P., Mohamed, Z., & Shamsudin, M. N. (2013). Consumer willingness to pay for green food in Malaysia. *Journal of International Food & Agribusiness Marketing*, 25(sup1), 1–18. <https://doi.org/10.1080/08974438.2013.798754>
- Rodríguez, E.M., Lacaze, M.V., & Lupin, B. (2008). Contingent valuation of consumers' willingness-to-pay for organic food in Argentina. In: *Proceedings of the 12th congress of the european association of agricultural economists- EAAE*, Belgium.
- Ruanganjanases, A., You, J.-J., Chien, S.-W., Ma, Y., Chen, S.-C., & Chao, L.-C. (2020). Elucidating the effect of antecedents on consumers' green purchase intention: An extension of the theory of planned behavior. *Frontier Psychology*. <https://doi.org/10.3389/fpsyg.2020.01433>
- Ruslan, R. A. H. M., Ibrahim, M. A., & Yen, T. F. (2021). Food marketing: The influence of organic greenwash towards Malaysian consumers' trust: A conceptual paper. *Advances in Business Research International Journal*, 7(1), 135–141. <https://doi.org/10.24191/abrij.v7i1.13273>
- Sarıkaya, N. (2007). Organik ürün tüketimini etkileyen faktörler ve tutumlar üzerine bir saha çalışması. *Kocaeli Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 14(2), 110–125.
- Schermelleh-Engel, K., Moosbrugger, H., & Müller, H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research*, 8(2), 23–74.
- Sekaran, U. (1992). *Research methods for business*. John Wiley & Sons Inc.
- Shafie, F. A., & Rennie, D. (2012). Consumer perceptions towards organic food. *Procedia - Social and Behavioral Sciences*, 49, 360–367. <https://doi.org/10.1016/j.sbspro.2012.07.034>
- Shaharudin, M. R., Pani, J. J., Mansor, S. W., & Elias, S. J. (2010). Factors affecting purchase intention of organic food in Malaysia's Kedah State. *Cross-Cultural Communication*, 6(2), 105–116. <https://doi.org/10.5539/ijms.v2n1p96>
- Smith, S., & Paladino, A. (2010). Eating clean and green? Investigating consumer motivations towards the purchase of organic food. *Australasian Marketing Journal*, 18, 93–104. <https://doi.org/10.1016/j.ausmj.2010.01.001>
- Suanmali, S. (2020). Determinants of a customer's willingness to pay (wtp) for organic fruits and vegetables: An empirical study in the Bangkok Metropolitan Area. *International Journal of Trade, Economics and Finance*, 11(4), 71–76. <https://doi.org/10.18178/ijtef.2020.11.4.669>
- Sun, Y., & Shi, B. (2022). Impact of greenwashing perception on consumers' green purchasing intentions: A moderated mediation model. *Sustainability*, 14(12119), 1–15. <https://doi.org/10.3390/su141912119>
- Taber, K. S. (2018). The use of cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, 48, 1273–1296. <https://doi.org/10.1007/s11165-016-9602-2>
- Tahir, R., Athar, M. R., & Afzal, A. (2020). The impact of greenwashing practices on green employee behaviour: Mediating role of employee value orientation and green psychological climate. *Cogent Business & Management*, 7(1), 1781996. <https://doi.org/10.1080/23311975.2020.1781996>
- Tarabieh, S. M. Z. A. (2021). The impact of greenwash practices over green purchase intention: The mediating effects of green confusion, Green perceived risk, and green trust. *Management Science Letters*, 11(2), 451–464. <https://doi.org/10.5267/j.msl.2020.9.022>

- Tarkiainen, A., & Sundqvist, S. (2005). Subjective norms, attitudes, and intentions of Finnish consumers in buying organic food. *British Food Journal*, 107(11), 808–822. <https://doi.org/10.1108/00070700510629760>
- Teng, C. C., & Lu, C. H. (2016). Organic food consumption in Taiwan: Motives, involvement, and purchase intention under the moderating role of uncertainty. *Appetite*, 105, 95–105. <https://doi.org/10.1016/j.appet.2016.05.006>
- Tregear, A., Dent, J., & McGregor, M. (1994). The demand for organically-grown produce. *British Food Journal*, 96(4), 21–25.
- Truong, T. T., Yap, M. H. T., & Ineson, E. M. (2012). Potential Vietnamese consumers' perceptions of organic foods. *British Food Journal*, 114(4), 529–543. <https://doi.org/10.1108/00070701211219540>
- Tsakiridou, E., Boutsouki, C., Zotos, Y., & Mattas, K. (2008). Attitudes and behaviour towards organic products: An exploratory study. *International Journal of Retail & Distribution Management*, 36(2), 158–175. <https://doi.org/10.1108/09590550810853093>
- Ueasangkomsate, P., & Santiteerakul, S. (2016). A study of consumers' attitudes and intention to buy organic foods for sustainability. *Procedia Environmental Sciences*, 34, 423–430. <https://doi.org/10.1016/j.proenv.2016.04.037>
- Unal, S., Deveci, F. G., & Yildiz, T. (2019). Do we know organic food consumers? The personal and social determinants of organic food consumption. *Istanbul Business Research*, 48(1), 1–35. <https://doi.org/10.26650/ibr.2019.48.0019>
- Ureña, F., Bernabéu, R., & Olmeda, M. (2008). Women, men and organic food: Differences in their attitudes and willingness to pay. A Spanish case study. *International Journal of Consumer Studies*, 32(1), 18–26. <https://doi.org/10.1111/j.1470-6431.2007.00637.x>
- Ustaahmetoglu, E., & Toklu, I. T. (2015). A survey on the effect of attitude, health consciousness and food safety on organic food purchase intention. *The International Journal of Economic and Social Research*, 11(1), 197–211.
- Van Doorn, J., & Verhoef, P. C. (2011). Willingness to pay for organic products: Differences between virtue and vice foods. *International Journal of Research in Marketing*, 28(3), 167–180. <https://doi.org/10.1016/j.ijresmar.2011.02.005>
- Van Loo, E. J., Caputo, V., Nayga, R. M., Jr., Meullenet, J. F., & Ricke, S. C. (2011). Consumers' willingness to pay for organic chicken breast: Evidence from choice experiment. *Food Quality and Preference*, 22(7), 603–613. <https://doi.org/10.1016/j.foodqual.2011.02.003>
- Wahab, S. (2018). Sustaining the environment through green marketing. *Review of Integrative Business and Economics Research*, 7(2), 71–77.
- Wee, C. S., Shoki, M., Zakuan, N., & Naquib, M. (2014). Consumers perception, purchase intention and actual purchase behavior of organic food products. *Review of Integrative Business and Economics Research*, 3(2), 378–397.
- Xie, B., Wang, L., Yang, H., Wang, Y., & Zhang, M. (2015). Consumer perceptions and attitudes of organic food products in Eastern China. *British Food Journal*, 117(3), 1105–1121. <https://doi.org/10.1108/BFJ-09-2013-0255>
- Yadav, R., & Pathak, G. S. (2016). Intention to purchase organic food among young consumers: Evidences from a developing nation. *Appetite*, 96, 122–128. <https://doi.org/10.1016/j.appet.2015.09.017>
- Yazar, E. E., & Burucuoglu, M. (2019). Consumer attitude towards organic foods: A multigroup analysis across genders. *Istanbul Business Research*, 48(2), 176–196. <https://doi.org/10.26650/ibr.2019.48.0001>
- Yazdanpanah, M., & Forouzani, M. (2015). Application of the theory of planned behaviour to predict Iranian students' intention to purchase organic food. *Journal of Cleaner Production*, 107, 342–352. <https://doi.org/10.1016/j.jclepro.2015.02.071>
- Zanoli, R., & Naspetti, S. (2002). Consumer motivations in the purchase of organic food: A means-end approach. *British Food Journal*, 104(8), 643–653. <https://doi.org/10.1108/00070700210425930>
- Zhang, L., Li, D., Cao, C., & Huang, S. (2018). The influence of greenwashing perception on green purchasing intentions: The mediating role of green word-of-mouth and moderating role of green concern. *Journal of Cleaner Production*, 187, 740–750. <https://doi.org/10.1016/j.jclepro.2018.03.201>

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