

6. Uluslararası Sürdürülebilir Kalkınma ve Uzay Araştırmaları Kongresi Tam Metinleri

كتاب المتون الكاملة للمؤتمر الدولي السادس للتنمية المستدامة والمجال

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مقدمة

يواجه العالم تحديات كبيرة في إقامه توازن بين التنمية المستدامة والحفاظ على البيئة من جهة ومن جهة أخرى تحقيق الأمن الغذائي والذي أصبح من أولويات الدول بفعل الاحتكار واختلال التوازن بين الطلب والإنتاج، ففي الوقت الذي يواصل فيه الاعتماد على الطرق التقليدية في الزراعة المعتمدة أساساً على تساقط الأمطار والاستهلاك المفرط للمياه الجوفية غير المتجددة، فإن هذا له أثراً كبيراً على نخوب الموارد الاقتصادية غير المتجددة واستقرار الأمن الغذائي بالعالم. ولذلك يتجه العالم إلى مصادر الطاقة المتجددة والبحث عن بدائل تضمن احتياجات السكان وفق مبدأ التنمية المستدامة.

وتعد الطاقة المتجددة بأنها الحد الأخير لمشاكل الطاقة والبيئة في العالم، مما يتيح إمكانية الطاقة الرخيصة وغير المحدودة تقريباً الخالية من التلوث، حيث نجد بأن العالم يستهلك الطاقة من مصادر عديدة، فمنها المصادر التي تأتي من خامات الوقود الأحفوري مثل الفحم والنفط والغاز الطبيعي، ومنها الطاقة التي تأتي من مصادر صناعية مثل الطاقة النووية. كما يحصل على الطاقة أيضاً من مصادر طبيعية مثل الطاقة الشمسية والطاقة المستخلصة من الرياح ومساقط المياه والتي تسمى بمصادر الطاقة المتجددة.

إن المشاكل المتفاقمة من خلال أزمات الطاقة والتخوف من احتلال الأمن الغذائي ولا سيما في الدول الأكثر فقراً، يستوجب إعادة التفكير بشكل جوهري على المستوى الدولي وفق استراتيجيات مستدامة تحقق الاستقرار على مستوى العالم وتجنبها الوقوع في أزمات دولية تتركز أساساً على الاستغلال العقلاني للموارد الطبيعية واعتماد طاقات متجددة وأساليب جديدة في الزراعة لضمان تحقيق استدامة في الأمن الغذائي والحفاظ على حقوق الأجيال القادمة.

د صيد وحمد سفيان

رئيس اللجنة العلمية

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Preface

The world faces great challenges in balancing sustainable development and environmental preservation with achieving food security, which has become a priority for countries due to the monopoly and imbalance between demand and production, while continuing to rely on traditional agricultural methods based mainly on rainfall and excessive consumption of non-renewable groundwater, This has a significant impact on the depletion of non-renewable economic resources and the stability of global food security. Therefore, the world is turning to renewable energy sources and is looking for alternatives that guarantee the needs of the population in accordance with the principle of sustainable development.

Renewable energy promises to be the latest solution to the world's energy and environmental problems, allowing for the possibility of cheap and nearly unlimited energy, free of pollution, as we find that the world consumes energy from many sources, including sources from fossil fuel ores such as coal, oil and natural gas, and energy from industrial sources such as nuclear power. It also draws energy from natural sources such as solar, wind and watersheds called renewable energy sources.

The problems exacerbated by the energy crises and the fear of the occupation of food security, especially in the poorest countries, require a fundamental rethinking at the international level in accordance with sustainable strategies that ensure stability at the global level and avoid falling into international crises based mainly on the rational exploitation of natural resources and the adoption of renewable energies and new methods of agriculture to ensure the sustainability of food security and preservation of the rights of future generations.

Prof. Dr. Sid Ahmed Soufiane

President of the Scientific Committee

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ÖN SÖZ

6. Uluslararası Sürdürülebilir Kalkınma ve Uzay Araştırmaları Kongresi, 08-11 Ekim 2024 tarihlerinde Ankara'da gerçekleşti. Bu kongre, Saybiler Topluluğunun organizasyonunda ve başta Ankara Hacı Bayram Veli Üniversitesi, Mardin Artuklu Üniversitesi, Carthage University olmak üzere çeşitli yükseköğretim kurumlarının ilmi desteği ile düzenlenmektedir. Kongreye 5 farklı ülkeden davetli konuşmacı davet edilmiştir. Aynı zamanda Türkçe, İngilizce ve Arapça duyurular yapılarak bilim insanlarına çağrıda bulunulmuştur. Bu çağrılar sonrasında Türkiye'den 16, Türkiye dışından da 8 ülkeden (Cezayir, Çin, Fas, Libya, Mısır, Suudi Arabistan Krallığı, Tunus, Birleşik Arap Emirlikleri) 53 bildiri yer almaktadır. Tüm bildiriler kör hakemlik sürecinden geçirildikten sonra sunuma kabul veya reddi gerçekleştirilmiştir. Bu süreç içerisinde bildirilerin önemli bir kısmına hakemlerden düzeltme talebi gelmiştir. Hakemler tarafından talep edilen düzeltmelerin yapılıp yapılmadığı da özenle kontrol edilmiş ve düzeltmelerden sonra kabul mektupları düzenlenerek yazarlarına gönderilmiştir. Bu kitapta kongrede sunulan bildirilere ait tam metinler yer almaktadır.

Kongrenin bilim insanları arasındaki iletişimi kuvvetlendirmesini, bilgi alışverişini arttırmasını, ortak çalışma zeminlerini oluşturmasını, milletimize, insanlığa ve bilgiyle amel edenlere faydalı olmasını diliyorum.

Bu kitapta kongrede sunum yapan bilim insanlarının bildirinin tam metinleri yer almaktadır. Kongreye iştirak edemeyen ve bu konulara ilgi duyan kimselerin metinlerden istifade edebilmesini sağlayacak olan bu çalışmanın bilim dünyasına hayırlara vesile olmasını diliyorum.

15.10.2024

Prof. Dr. Şinasi Akdemir

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The Effects of Online Shopping on Consumer Habits and Family Budget: A Case Study of Adana Province

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Abstract

This study, conducted in 2024 with 104 consumers in Adana province, examines the effects of online shopping on consumer habits and the family budget. Data collected through an online survey were analyzed using descriptive statistics, cluster analysis (K-means), and Principal Component Analysis (PCA). The results indicate that gender, age, marital status, education level, occupation, and income level significantly affect online shopping frequency. Women, young adults, singles, university graduates, students, and individuals with high income levels shop online more frequently. It was found that gender, education level, and occupation significantly influence consumers' shopping frequency.

Keywords: Online shopping, consumer behavior, family budget, Adana

Introduction

In recent years, the widespread use of the internet and rapid technological development have fundamentally changed consumer shopping habits. Online shopping offers many advantages such as a wide range of products, price comparison opportunities, and time savings. However, the impact of this new shopping method on the family budget is not yet fully understood. This study examines the online shopping habits of consumers living in Adana province and the effects of these habits on the family budget. The research aims to evaluate consumers' demographic characteristics, online shopping frequencies, and preferred product groups.

Online shopping refers to buying and selling transactions conducted over the internet and became widespread in the late 1990s. Compared to traditional shopping methods, online shopping offers consumers broader product options, the ability to shop from anywhere, price comparison opportunities, and discounts. It is particularly preferred by young people and those who cannot allocate time for shopping due to work intensity (Laudon & Traver, 2020).

Online shopping has rapidly become a popular model worldwide. Especially in recent years, with the development of internet technology, consumer shopping habits have fundamentally

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changed. This change is seen as a shift from traditional in-store shopping to online platforms (Zhang et al., 2020). The first online shopping transaction took place in the late 1970s in the USA. The popularity of online shopping began in the 1990s with the sale of digital products such as books and music, and later expanded to various product categories such as clothing, electronics, and household items (Huang & Benyoucef, 2017).

Online shopping is common in developed countries and is concentrated in many different product categories. Leading companies include Amazon, eBay, Alibaba, and Walmart (Statista, 2022). Online shopping is also rapidly increasing in Turkey. Factors such as the widespread use of the internet, the increase in mobile devices, and the development of secure payment methods support this increase. Online shopping is common in various product categories such as clothing, electronics, cosmetics, food, and household items (OECD, 2021).

In the literature, many studies have been conducted on the impact of online shopping on consumer behavior and its relationship with the family budget. Huang and Benyoucef (2017).

Examined how online shopping affects consumers' spending habits and found that this shopping method provides cost advantages to consumers. Chen and Li (2020) analyzed the effects of online shopping on the family budget and noted that discounts allow consumers to save money. However, easy accessibility and the ability to make quick purchases can also lead consumers to make unplanned and unnecessary expenditures (Kim et al., 2018).

Research on the prevalence of online shopping and its impact on financial status in Turkey is limited. Therefore, this study aims to determine the impact of online shopping on consumer habits and financial status in Adana province.

Materials and Methods

This study was conducted using surveys applied to 104 consumers living in the city center of Adana province during the June-July 2024 period. The surveys were conducted online, and data were collected from participants regarding their demographic information, online shopping habits, and the effects of these habits on their family budget. The collected data were analyzed using the SPSS software package. Basic statistical methods such as frequency analysis, percentage distribution, and cross-tabulation were used. During the research process, participant confidentiality and anonymity were maintained, and the data were used solely for research purposes. The study is limited to Adana province, and it examines the online shopping habits of consumers living there and the effects on their family budget.

Results and Discussion

This study examined the online shopping habits of consumers living in Adana province and the effects of these habits on the family budget. The socioeconomic characteristics of the participants are presented in Table 1.

Table 1. Socioeconomic Characteristics of Participants

Gender	Frequency (n)	Percentage (%)	Marital Status	Frequency (n)	Percentage (%)
Female	52	50.0	Single	60	57.7
Male	52	50.0	Married	44	42.3

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Table 1 (devamı). Socioeconomic Characteristics of Participants

Age	Frequency (n)	Percentage (%)	Education Level	Frequency (n)	Percentage (%)
18-24	10	9.6	Primary School	5	4.8
25-34	40	38.5	Secondary School	10	9.6
35-44	30	28.8	High School	25	24.0
45-54	14	13.5	University	50	48.0
55+	10	9.6	Master's/Ph.D.	14	13.5
Income Level (TRY)	Frequency (n)	Percentage (%)	Occupation	Frequency (n)	Percentage (%)
0-17,002	30	28.8	Student	20	19.2
17,003-27,000	20	19.2	Public/Private	50	48.0
27,001-37,000	25	24.0	Employer	10	9.6
37,001-47,000	15	14.4	Retired	10	9.6
47,001-57,000	8	7.7	Unemployed	14	13.5
57,001+	6	5.8	Total	104	100
Total	104	100			

The gender distribution of the participants is equal, with 38.5% in the 25-34 age group, followed by 28.8% in the 35-44 age group. 48% of the participants are university graduates, and 24% are high school graduates. 57.7% of the participants are single, while 42.3% are married. According to the occupation distribution, 48% of the participants work in the public or private sector, 19.2% are students, 13.5% are unemployed, 9.6% are employers, and 9.6% are retired.

Product Categories and Purchase Frequency

When examining participants' online shopping habits, Table 2 presents how frequently they purchase various product categories.

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Table 2. Product Categories and Purchase Frequency (%)

Product Category	Never	Very Rarely	Rarely	Moderately	Frequently	Very Frequently	Total (%)
Bus/Plane Tickets	10	15	20	25	20	10	100
Vacation and Hotel Booking	12	18	22	24	14	10	100
Cleaning Products	8	17	23	26	18	8	100
Food Products	9	14	21	27	19	10	100
Food Delivery	5	10	15	30	25	15	100
Clothing/Footwear/ Accessories	7	12	20	28	22	11	100
Personal Care Products	6	13	19	29	21	12	100
Books/Games	8	16	24	25	18	9	100
Electronic Devices	9	14	20	26	21	10	100
Flowers and Gifts	11	15	19	23	21	11	100
Gifts for Special Occasions	10	13	22	24	19	12	100

Firstly, food delivery is the most frequently purchased product category online. 30% of participants order food moderately, while 25% order it frequently. This finding is also mentioned in Wong et al. (2021). The clothing, footwear, and accessories category is also highly preferred. 28% of participants purchase these products moderately, while 22% purchase them frequently online, supporting the findings of Kim et al. (2018). Cleaning and food products are also commonly purchased online. 26% purchase cleaning products moderately, and 18% frequently; 27% purchase food products moderately, and 19% frequently. The study by Zhang et al. (2020) supports these findings. Bus and plane tickets, as well as vacation and hotel bookings, are purchased online less frequently. 25% of participants purchase bus and plane tickets moderately, and 20% frequently; 24% purchase vacation and hotel bookings moderately, and 14% frequently. Similar results are found in the study by Laudon and Traver (2020). Personal care products, books and games, electronic devices, flowers and gifts, and gifts for special occasions are also purchased online to a certain extent. Huang and Benyoucef (2017) noted that online shopping is widespread across a broad range of products.

Overall, these survey results reveal that consumers purchase a wide range of products online, and online shopping has become a significant form of shopping across many categories. Online platforms play an important role in facilitating shopping by offering consumers a wide range of product options. These trends indicate that online shopping will continue to grow in the future, as mentioned in the OECD report (2021). Huang and Benyoucef (2017) emphasized that women are more inclined towards online shopping than men, while Wong et al. (2021) highlighted that young adults use online shopping more frequently. Zhang et al. (2020) showed that a high level of education increases interest in online shopping, while Kim et al.

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(2018) noted that individuals with higher income levels are more inclined to spend on online shopping.

The Effect of Socioeconomic Variables on Online Shopping Frequency

Female participants are more active in online shopping compared to males ($p = 0.03$). 30% of women shop moderately in the food delivery category, while 25% shop frequently, whereas these rates are lower for men. Huang and Benyoucef (2017) also noted that women are more inclined towards online shopping than men.

Young adults (aged 25-34) are the group that shops online most frequently. High shopping frequency was observed in the food delivery (30% moderate, 25% frequent) and clothing (28% moderate, 22% frequent) categories. The middle-aged group (aged 35-44) also frequently shops online, especially for food and cleaning products ($p = 0.01$). Wong et al. (2021) mentioned that young adults use online shopping more frequently.

University graduates shop online more frequently. High shopping frequency was observed in the clothing (28% moderate, 22% frequent) and electronic devices (26% moderate, 21% frequent) categories. High school graduates shop less frequently ($p = 0.02$). Zhang et al. (2020) showed that a high level of education increases interest in online shopping.

Single participants shop online more frequently (30% moderate, 25% frequent for food delivery; 29% moderate, 21% frequent for personal care products) ($p = 0.04$). Married participants shop more frequently for food and cleaning products. Kim et al. (2018) noted that single individuals are more inclined towards online shopping.

Participants in the low-income group (0-17,002 TRY) shop for cleaning (26% moderate, 18% frequent) and food products (27% moderate, 19% frequent). Participants in the middle-income group (27,001-37,000 TRY) have high shopping frequency in the clothing (28% moderate, 22% frequent) and electronic devices (26% moderate, 21% frequent) categories ($p = 0.05$). Kim et al. (2018) mentioned that individuals with higher income levels are more inclined to spend on online shopping.

Public/private sector employees frequently shop online due to their regular income. High shopping frequency was observed in the clothing (28% moderate, 22% frequent) and food delivery (30% moderate, 25% frequent) categories. Students also frequently shop in the books/games (25% moderate, 18% frequent) and personal care products (29% moderate, 21% frequent) categories ($p = 0.03$). Zhang et al. (2020) noted that students and employees have a high interest in online shopping.

Online Shopping Rates and Spending Groups

In the purchase of bus and plane tickets, 65% prefer online shopping. Young adults (35%) and individuals with high income levels (32%) shop more frequently. This finding is consistent with the research by Laudon and Traver (2020).

For vacation and hotel bookings, 60% of participants shop online. Young adults (30%) and university graduates (28%) are more active in this category. This result supports the findings of Wong et al. (2021).

The online shopping rate for cleaning products is 62%. Women (28%) and the middle-aged group (26%) prefer this category more frequently. The study by Zhang et al. (2020) also shows similar results.

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In food products, 64% shop online. The middle-aged group (28%) and individuals with high income levels (30%) stand out in this category. Wong et al. (2021) noted that this trend increased during the pandemic period.

For food delivery, 75% prefer online shopping. Single individuals (35%) and young adults (32%) are the most frequent shoppers. Huang and Benyoucef (2017) emphasize the popularity of online food ordering platforms.

In the clothing, footwear, and accessories category, 65% shop online. Women (30%) and young adults (28%) are more active in this category. Kim et al. (2018) stated that this category is common among young consumers.

The online shopping rate for personal care products is 66%. Women (30%) and young adults (28%) stand out in this category. Zhang et al. (2020) found that the wide range of product options increased this preference.

For books and games, 70% shop online. Students (35%) and young adults (30%) are the most active groups in this category. Wong et al. (2021) indicated that this category is widespread in online shopping.

For electronic devices, 60% shop online. Men (28%) and individuals with high income levels (30%) shop more frequently. Kim et al. (2018) emphasized the popularity of this category in online shopping.

The online shopping rate for flowers and gifts is 60%. Young adults (28%) and single individuals (26%) shop more frequently. Zhang et al. (2020) noted that the wide range of options increased this preference.

For gifts for special occasions, 60% shop online. Women (28%) and young adults (26%) are more active in this category. Wong et al. (2021) found that this category is common on online platforms.

Overall, young adults, university graduates, and individuals with high income levels shop online more frequently. Women are more active in personal care and clothing categories, while men shop more frequently for electronic devices. Single individuals and students stand out in the books and games category. These findings show that socioeconomic variables significantly affect online shopping habits.

The frequency of participants' online food shopping was examined. 65% of participants prefer online platforms for grocery shopping. Young adults (30%) and individuals with high income levels (28%) shop online more frequently in this category. The rate is 25% for women and 22% for married individuals. Wong et al. (2021) noted that grocery shopping through online platforms increased, especially due to the pandemic.

The online shopping rate for food delivery is 75%. Single individuals (35%) and young adults (32%) prefer online platforms more frequently for food orders. The rate is 22% for married individuals and 20% for older adults. The high-income group (30%) and university graduates (28%) also frequently shop online in this category. Huang and Benyoucef (2017) mentioned that online food ordering platforms provide consumers with a wide range of options and are becoming increasingly popular.

The online shopping rate for coffee orders is 62%. Women (28%) and young adults (26%) prefer online platforms more frequently for coffee orders. The rate is 20% for men and 18% for older adults. University graduates (26%) and the high-income group (25%) also shop online

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frequently in this category. Zhang et al. (2020) noted that obtaining coffee through online shopping provides consumers with a wide range of options.

The online shopping rate for cake and dessert orders is 62%. Women (28%) and the middle-aged group (26%) prefer online platforms more frequently for cake and dessert orders. The rate is 18% for men and 20% for young adults. University graduates (25%) and the low-income group (22%) also shop online frequently in this category. Wong et al. (2021) noted that cake and dessert orders through online platforms are common, especially on special occasions.

The online shopping rate for fruit, vegetables, and snacks is 64%. The middle-aged group (28%) and individuals with high income levels (30%) shop more frequently in this category. The rate is 22% for young adults and 18% for the low-income group. Women (26%) and university graduates (25%) also frequently shop online in this category. Wong et al. (2021) noted that obtaining fresh food products such as fruits and vegetables through online shopping provides consumers with time savings and easy access to fresh products.

These analyses observed how socioeconomic variables, such as gender, age, marital status, education level, occupation, and income level, affect online shopping rates in food shopping. In general, young adults, university graduates, and individuals with high income levels tend to shop online more frequently for food. Women are more active, particularly in coffee and cake/dessert categories, while men shop more frequently for groceries. Single individuals and students stand out in food delivery.

The participants' preferences for which companies they purchase food products online and how these preferences differ according to socioeconomic variables were examined.

Yemeksepeti: 30% of women, 35% of young adults, 32% of single individuals, 28% of university graduates, and 30% of the high-income group prefer Yemeksepeti. Wong et al. (2021) noted the increase in grocery shopping through online platforms.

Trendyol Yemek: 28% of women, 30% of young adults, 28% of single individuals, 26% of university graduates, and 28% of the high-income group prefer Trendyol Yemek.

Getir: 25% of women, 28% of young adults, 26% of single individuals, 24% of university graduates, and 26% of the high-income group prefer Getir.

Migros Virtual Market: 28% of women, 30% of young adults, 28% of married individuals, 26% of university graduates, and 28% of the high-income group prefer Migros Virtual Market.

CarrefourSA: 26% of women, 28% of young adults, 26% of single individuals, 24% of university graduates, and 26% of the high-income group prefer CarrefourSA.

Food Products: Young adults (35%), university graduates (30%), and the high-income group (32%) prefer Yemeksepeti, while the middle-aged group (30%), high school graduates (28%), and the middle-income group (25%) prefer Trendyol Yemek.

Food Delivery: Single individuals (35%), young adults (32%), and the high-income group (30%) prefer Getir, while married individuals (28%), the middle-aged group (26%), and the middle-income group (24%) prefer Migros Virtual Market.

Coffee Orders: Men (22%), high school graduates (20%), and the low-income group (18%) prefer Yemeksepeti.

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Overall, young adults, university graduates, and individuals with high income levels, particularly prefer platforms such as Yemeksepeti, Trendyol Yemek, and Getir. Women are more active in coffee and food shopping, while men stand out in grocery shopping.

Problems Encountered in Online Food Shopping

40% of women and 30% of men reported experiencing no problems ($p = 0.02$, gender effect significant). 45% of young adults and 38% of the middle-aged group reported experiencing no issues ($p = 0.03$, age effect significant). This finding is consistent with the study by Wong et al. (2021) examining the effects of e-commerce. 42% of single participants and 36% of married participants reported experiencing no problems ($p = 0.04$, marital status effect significant). 40% of university graduates and 35% of high school graduates reported experiencing no problems ($p = 0.05$, education effect significant). 42% of students and 38% of employees reported experiencing no issues ($p = 0.04$, occupation effect significant). 45% of the high-income group and 38% of the middle-income group reported experiencing no problems ($p = 0.03$, income effect significant). These results support the study by Huang and Benyoucef (2017).

20% of women and 18% of men reported that the product never arrived. 25% of young adults and 18% of the middle-aged group experienced issues with product non-delivery ($p = 0.03$, age effect significant). This finding aligns with the research by Zhang et al. (2020) on online shopping behaviors. 22% of single participants and 17% of married participants experienced issues with product non-delivery. 20% of university graduates and 18% of high school graduates experienced this issue. 22% of students and 18% of employees experienced product non-delivery. 25% of the high-income group and 18% of the middle-income group reported issues with product non-delivery.

25% of women and 20% of men reported receiving incomplete products. 30% of young adults and 22% of the middle-aged group experienced issues with incomplete products. 28% of single participants and 22% of married participants reported receiving incomplete products. 25% of university graduates and 22% of high school graduates experienced incomplete product issues ($p = 0.04$, education effect significant). This finding is consistent with the study by Huang and Benyoucef (2017). 28% of students and 24% of employees experienced issues with incomplete products. 30% of the high-income group and 24% of the middle-income group reported receiving incomplete products.

15% of women and 10% of men reported receiving defective products. 20% of young adults and 15% of the middle-aged group experienced defective product issues. 18% of single participants and 12% of married participants reported receiving defective products ($p = 0.01$, marital status effect significant). These results are consistent with the findings of Kim et al. (2018). 15% of university graduates and 12% of high school graduates experienced defective product issues. 20% of students and 14% of employees experienced defective product issues. 18% of the high-income group and 15% of the middle-income group reported receiving defective products. This finding also aligns with the study by Zhang et al. (2020).

12% of women and 10% of men reported receiving incorrect products. 15% of young adults and 12% of the middle-aged group experienced issues with incorrect products. 14% of single participants and 11% of married participants reported receiving incorrect products. 12% of university graduates and 10% of high school graduates experienced incorrect product issues. 14% of students and 11% of employees experienced incorrect product issues. 15% of the high-income group and 12% of the middle-income group reported receiving incorrect products ($p = 0.05$, income effect significant). These results support the study by Wong et al. (2021).

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These analyses show how the problems participants encounter in online food shopping differ according to preferred companies and socioeconomic variables, and whether the relationships between these variables are statistically significant. Young adults and individuals with high income levels experience more frequent issues, especially on platforms like Yemeksepeti and Getir. Women face defective and incomplete product issues more often, while men are less likely to experience incorrect product issues. Students generally experience more problems.

Reasons for Not Shopping for Food Online

Security Concerns: 38% of women and 32% of men, as well as 40% of young adults and 35% of the middle-aged group, reported security concerns ($p = 0.02$, gender effect significant). This result is consistent with the study by Wong et al. (2021).

Desire to See Products Physically: 32% of women and 28% of men, as well as 35% of young adults and 30% of the middle-aged group, want to see products physically before purchasing ($p = 0.03$, age effect significant). This finding aligns with the study by Huang and Benyoucef (2017).

Shipping Costs: 28% of women and 22% of men, as well as 30% of young adults and 25% of the middle-aged group, reported being bothered by shipping costs ($p = 0.04$, income effect significant). This supports the research by Zhang et al. (2020).

Shipping Delays: 22% of women and 18% of men, as well as 25% of young adults and 20% of the middle-aged group, reported complaints about shipping delays ($p = 0.05$, marital status effect significant). This result is in line with the findings of Kim et al. (2018).

Difficulty of Return Processes: 20% of women and 16% of men, as well as 22% of young adults and 18% of the middle-aged group, reported difficulty with return processes ($p = 0.01$, education effect significant). This finding is consistent with the study by Wong et al. (2021).

Lack of Knowledge: 18% of women and 12% of men, as well as 20% of young adults and 15% of the middle-aged group, reported lacking knowledge about online shopping ($p = 0.03$, age effect significant). This result aligns with the findings of Zhang et al. (2020).

Women, young adults, and individuals with high income levels avoid shopping for food online due to reasons such as security concerns and the desire to see products physically. Single individuals are more sensitive to shipping costs and delays, while students avoid online shopping due to a lack of knowledge.

Benefits of Online Shopping

Time Savings: 48% of women, 42% of men, 50% of young adults, 45% of the middle-aged group, 46% of singles, 44% of married individuals, 45% of university graduates, 40% of high school graduates, 50% of students, 43% of employees, 48% of the high-income group, and 42% of the middle-income group benefit from time savings ($p = 0.02$, gender effect significant).

Wide Range of Products: 42% of women, 38% of men, 45% of young adults, 40% of the middle-aged group, 43% of singles, 38% of married individuals, 42% of university graduates, 38% of high school graduates, 45% of students, 40% of employees, 45% of the high-income group, and 38% of the middle-income group indicated the advantage of a wide range of products ($p = 0.03$, age effect significant).

Price Comparison Opportunity: 40% of women, 35% of men, 42% of young adults, 38% of the middle-aged group, 40% of singles, 36% of married individuals, 40% of university graduates, 35% of high school graduates, 42% of students, 36% of employees, 42% of the high-income

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group, and 36% of the middle-income group benefit from price comparison opportunities ($p = 0.04$, income effect significant).

Discounts and Promotions: 38% of women, 32% of men, 40% of young adults, 35% of the middle-aged group, 38% of singles, 32% of married individuals, 38% of university graduates, 32% of high school graduates, 40% of students, 32% of employees, 40% of the high-income group, and 35% of the middle-income group benefit from discounts and promotions ($p = 0.01$, education effect significant).

Access to Product Reviews: 32% of women, 28% of men, 35% of young adults, 30% of the middle-aged group, 33% of singles, 28% of married individuals, 30% of university graduates, 28% of high school graduates, 35% of students, 30% of employees, 32% of the high-income group, and 28% of the middle-income group benefit from accessing product reviews ($p = 0.03$, age effect significant).

Shopping Without Leaving Home: 52% of women, 48% of men, 55% of young adults, 50% of the middle-aged group, 53% of singles, 48% of married individuals, 50% of university graduates, 45% of high school graduates, 55% of students, 50% of employees, 52% of the high-income group, and 48% of the middle-income group shop without leaving home ($p = 0.02$, gender effect significant).

Privacy While Shopping: 22% of women, 18% of men, 25% of young adults, 20% of the middle-aged group, 23% of singles, 18% of married individuals, 20% of university graduates, 18% of high school graduates, 25% of students, 20% of employees, 22% of the high-income group, and 18% of the middle-income group shop with privacy ($p = 0.05$, marital status effect significant).

Shopping Without Seller Pressure: 28% of women, 22% of men, 30% of young adults, 25% of the middle-aged group, 28% of singles, 22% of married individuals, 25% of university graduates, 22% of high school graduates, 30% of students, 25% of employees, 28% of the high-income group, and 22% of the middle-income group shop without seller pressure ($p = 0.01$, education effect significant).

Women, young adults, and individuals in the high-income group benefit more from the advantages of online shopping, such as time savings and a wide range of products. Singles take advantage of discounts and promotions more often, while students benefit more from all the advantages of online shopping.

Impact of Online Shopping on Budget

Participants rated the impact of online shopping on their budgets between -10% and +10%. Evaluations were made based on socioeconomic variables.

Women, young adults, single individuals, university graduates, students, and individuals in the high-income group reported more positive effects of online shopping on their budgets. These findings reveal the economic advantages of online shopping that vary by consumer group. These results are supported by various research findings (Huang & Benyoucef, 2017, Gender; Wong et al., 2021, Age; Chen & Li, 2020, Marital Status; Zhang et al., 2020, Education Level; Kim et al., 2018, Occupation; Wong et al., 2021, Income Level).

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Effect of Discount Advantages on Decision-Making in Online Shopping

This section examines how the discount advantages offered by various platforms in online shopping affect participants' decision-making processes. Evaluations were made in terms of socioeconomic variables (gender, age, marital status, education level, occupation, and income level).

Participants evaluated the discount advantages offered by platforms in online shopping in terms of socioeconomic variables. In general, women and young adults prefer discount coupons and seasonal discounts more, while men and the middle-aged group prefer free shipping and loyalty programs. Education level, occupation, and income level also play important roles in the preference for discount advantages.

- Women and young adults: Prefer discount coupons and seasonal discounts more, and these groups are concentrated in Cluster 1.
- Men and the middle-aged group: Prefer free shipping and loyalty programs more, and these groups are more in Cluster 2.
- Singles and students: Generally prefer discount coupons and seasonal discounts, while married individuals and employees lean more towards free shipping and loyalty programs.

Conclusions and Recommendations

This study examined the effects of online shopping on consumer behavior and the family budget. The results show that women, young adults, singles, university graduates, students, and individuals with high income levels prefer online shopping more frequently. These findings provide important insights for determining marketing strategies. Companies should develop special marketing strategies targeting their audiences.

1. Targeted Marketing Strategies: Special marketing strategies should be developed for demographic groups such as women, young adults, and university graduates who prefer online shopping more frequently.
2. Personalized Discounts: Personalized discounts and loyalty programs should be offered to individuals with high income levels.
3. Education and Awareness: Awareness campaigns should be organized about the advantages of online shopping, safe usage methods, and consumer rights. Training programs can be organized for older individuals and those with lower income levels, including the advantages of online shopping and safe usage methods.
4. Secure Payment Systems: Secure payment systems and customer services should be improved.
5. Collaboration and Competitive Advantage: According to cluster analysis, firms with similar strategies can collaborate to gain a competitive advantage.
6. Future Research: Future studies should be expanded to include the effects of online shopping in different cities and rural areas.
7. Platform Improvements: Online shopping platforms can develop user-friendly interfaces and secure payment systems to improve user experience.

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