



ONLINE RETAIL FOOD SHOPPING DURING THE COVID-19 PANDEMIC PERIOD COVID-19 PANDEMİSİ SÜRECİNDE ÇEVİRİMİÇİ PERAKENDE GIDA ALIŞVERİŞİ

Serhat KARAOĞLAN¹, Ahmet Buğra HAMŞİOĞLU²



1. Arş. Gör. Dr., Kırıkkale Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, İşletme Bölümü, serhat@karaoglan.net, <https://orcid.org/0000-0002-4120-4013>
2. Doç. Dr., Burdur Mehmet Akif Ersoy Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, İşletme Bölümü, abhamsioglu@mehmetakif.edu.tr, <https://orcid.org/0000-0002-4973-8773>

Abstract

This study was conducted to measure consumer attitudes towards online retail food shopping and the impact of the Covid-19 pandemic on these attitudes. Therefore, data were collected from 390 volunteers through an online survey in the first half of 2021, when the pandemic was intense. Effects of perceived convenience, risk, price advantage, and trust factors on purchase intention were studied. For this, a structural equation model was performed. Then, the moderator effect of pandemic anxiety was examined. Finally, consumers were grouped according to the number and amount of online shopping. The differences between the means of the groups regarding the factors in the model were examined. According to the results, perceived convenience, price advantage, and trust factors have positive and significant on purchase intention; perceived risk factor has a negative and significant effect. It has been found that pandemic anxiety moderates the relationship between risk and price with purchase intention. It is seen that the light online shoppers differ from the moderate and heavy online shoppers in the convenience, risk and trust perception, and purchase intention. Moderate and heavy online shoppers differ only in the trust factor. There was no statistically significant difference between the three groups regarding perceived price advantage and pandemic anxiety.

Keywords: Behavior, Covid-19, Food Shopping, E-Commerce, Pandemic Anxiety.

Öz

Bu çalışma, tüketicilerin çevrimiçi perakende gıda alışverişine yönelik tutumlarını ve Covid-19 pandemisinin bu tutumlara etkisini ölçmek amacıyla yapılmıştır. Bu nedenle pandeminin yoğun olduğu 2021 yılının ilk yarısında çevrimiçi bir anket aracılığıyla 390 gönüllüden veri toplanmıştır. Algılanan kolaylık, risk, fiyat avantajı ve güven faktörlerinin satın alma niyeti üzerindeki etkileri incelenmiştir. Analiz için yapısal eşitlik modeli kullanılmıştır. Ardından pandemik kaygının düzenleyici etkisi test edilmiştir. Son olarak, tüketiciler çevrimiçi alışveriş sayısı ve miktarına göre gruplandırılmıştır. Modelde yer alan faktörlere ilişkin grupların ortalamaları arasındaki farklar incelenmiştir. Elde edilen sonuçlara göre, algılanan kolaylık, fiyat avantajı ve güven faktörlerinin satın alma niyeti üzerinde pozitif ve anlamlı; algılanan risk faktörünün negatif ve anlamlı bir etkisi vardır. Pandemi kaygısının satın alma niyeti ile risk ve fiyat arasındaki ilişki üzerinde moderatör etkisi olduğu bulunmuştur. Az çevrimiçi alışveriş yapanların orta ve yoğun çevrimiçi alışveriş yapanlardan kolaylık, risk ve güven algısı ve satın alma niyeti faktörlerinin ortalamalarına göre farklılık gösterdiği görülmektedir. Orta düzeyde ve yoğun çevrimiçi alışveriş yapan katılımcılar yalnızca güven faktörü ortalamasında fark yoktur.

Anahtar Kelimeler: Tüketici Davramışı, Covid-19, Gıda Alışverişi, E-Ticaret, Pandemi Anksiyetesi.

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GENİŞLETİLMİŞ ÖZET

Çalışmanın Amacı

Bu çalışma, tüketicilerin çevrimiçi gıda alışverişini etkileyen faktörleri incelemek ve teorik çerçevede oluşturulan araştırma modelini test etmek amacıyla yapılmaktadır. Ayrıca COVID-19 kaygısının tüketicilerin çevrimiçi gıda alışverişlerine etkisi de araştırılmaktadır. Çevrimiçi alışveriş sıklığına ve miktarına göre gruplandırılan tüketicilerin, modelde yer alan faktörlere ilişkin ortalamaları arasındaki farkları incelemek de ikincil amaç olarak yer almaktadır.

Araştırma Soruları

Şekil 1’de yer alan araştırma modeli çerçevesinde sekiz hipotez kurulmuştur. İlk dört hipotez algılanan kolaylık, algılanan risk, algılanan fiyat avantajı ve algılanan güven bağımsız değişkenlerinin bağımlı değişken olan çevrimiçi perakende gıda satın alma niyetine etkisini sorgulamaktadır. Sonraki dört hipotez ise bu ilişkiler üzerinde pandemi anksiyetesinin moderatör etkisi olup olmadığını test etmek amacıyla kurulmuştur. Ardından araştırmanın ikincil amacı çerçevesinde yukarıda sözü geçen altı faktöre ilişkin tüketici gruplarının ortalamaları arasındaki fark olup olmadığı oluşturulan hipotezler aracılığıyla sorulmaktadır.

Literatür Araştırması

Tüketicinin bir ürünü elde etmek için maliyete katlanma eğilimi, çevrimiçi alışveriş ortamında çevrimiçi satın alma niyetini belirleyecektir. Satın alma niyeti, tüketicilerin bilişsel davranışlarından birisidir ve bir ürünün veya markanın nasıl satın alınmak istendiğini göstermektedir (Ling vd., 2010). Alışveriş kolaylığı, tüketicinin zamandan ve emekten kaçınma algısıdır ve tüm alışveriş sürecini kapsayan çok boyutlu bir yapıdır (Karaoğlan ve Durukan, 2020). Alışveriş risk içerir çünkü bir alıcının kararı bazı öngörülemez ve potansiyel olarak hoş olmayan sonuçlar içerir (Bauer, 1960). Alıcılar ve satıcılar arasındaki mekânsal ve zamansal ayrım nedeniyle, çevrimiçi alışverişte risk, fiziksel alışverişe göre daha yüksektir (Tan, 1999). Fiyat, bir ürünü elde etmek için yapılan fedakarlıktır (Zeithaml, 1988). Yani, bir ürünü satın alırken katlanılan maliyettir. Fiyat, çevrimiçi alışverişte tüketiciler için güvenin yanı sıra en önemli iki faktörden biridir ve müşterilerin alışveriş niyetlerini önemli ölçüde etkiler (Kim vd., 2011). Güven duygusu, birine veya bir şeye bağımlı olma arzusu olarak tanımlanmaktadır (Chung ve Kwon, 2009). Fam vd. (2004) güvenin, ekonomik çıktının ötesinde memnuniyete katkıda bulunan, belirli bir süre içinde inşa edilen müşteri memnuniyeti ile dinamik bir süreç olduğunu savunmaktadır. Kaygı, geleceğe yönelik, olumsuz bir durum, bir uyarıcı, bir tepki, bir dürtü ve bir güdü olarak tanımlanmıştır (Endler ve Kocovski, 2001). Bireyler, Covid tehdidi nedeniyle korku yaşarlar (Paredes vd., 2021). COVID-19 olgusu, ne zaman ve nerede çoğalabileceği, ölüm oranı ve kırılma zamanı gibi sayısız belirsizlik nedeniyle tüketiciler için endişe uyandırmaktadır (Phang vd., 2021). Çevrimiçi alışveriş literatüründe algılanan kolaylığın, algılanan fiyat avantajının ve algılanan güvenin satın alma niyetini arttırdığı görülmektedir. Ayrıca algılanan risk arttıkça çevrimiçi satın alma niyeti azalmaktadır. Araştırmalar, COVID-19 pandemisinin çevrimiçi alışveriş davranışlarına etki ettiğini göstermiştir.

Yöntem

Araştırma için öncelikle Etik Kurul izni alınmıştır. Araştırma verileri Mart 2021 ile Haziran 2021 arasında, COVID-19 pandemisi koşulları sebebiyle çevrimiçi anket yoluyla toplanmıştır. Toplam 421 gönüllü katılımcı çalışmaya dahil edildi. Otuz bir katılımcı, internetten hiç alışveriş yapmadığını belirttiği için analizden çıkarılmıştır. Anketin ilk bölümü demografik bilgiler ve çevrimiçi alışveriş ile ilgili açıklayıcı üç sorudan oluşmaktadır. İkinci bölüm, analizde kullanılacak kolaylık, risk, fiyat avantajı, güven, kaygı ve satın alma niyeti faktörlerine ilişkin sorulardan oluşmaktadır. Bu bölümde 7'li Likert formatında "1- Kesinlikle katılmıyorum 2- Katılmıyorum 3- Kısmen katılmıyorum 4- Ne katılıyorum ne katılmıyorum 5- Kısmen katılıyorum 6- Katılıyorum 7- Kesinlikle katılıyorum" şeklinde 22 soru sorulmuştur. Ölçeklere ilişkin bilgiler Tablo 2'de yer almaktadır. Verilerin analizi için IBM SPSS Statistics, Process Macro eklentisi ve IBM SPSS AMOS kullanılmıştır.

Sonuç ve Değerlendirme

Bulgular değerlendirildiği zaman modelde yer alan dört bağımsız değişkene ilişkin kurulan hipotezlerin tamamı kabul edilmiştir. Yani algılanan kolaylığın, algılanan fiyat avantajının ve algılanan güvenin çevrimiçi perakende gıda satın alma niyetini arttırdığı, algılanan riskin ise çevrimiçi perakende gıda satın alma niyetini azalttığı görülmektedir. Pandemi kaygısının algılanan risk ve fiyat avantajının satın alma niyeti ile ilişkileri üzerinde moderatör etkisi varken, kolaylık ve güvenin satın alma niyeti ile ilişkisi üzerinde moderatör etkisi yoktur. Hafif, orta ve yoğun olarak gruplandırılan çevrimiçi alışveriş tüketicilerine ilişkin ortalamalar arasındaki farklılıkların incelenmesi sonucunda ise algılanan fiyat avantajı faktöründe bir farklılık bulunmamıştır. Hafif alışverişçi grubun, orta ve yoğun çevrimiçi alışveriş yapanlardan kolaylık, risk ve güven algısı ve satın alma niyetinde farklılık gösterdiği görülmektedir. Orta düzeyde ve yoğun çevrimiçi alışveriş yapanlar yalnızca güven faktöründe farklılık gösterir. Pandemi kaygısı faktöründe beklediği gibi bir fark bulunmamıştır. Pazarlama yöneticileri müşterilerini segmentlere ayırabilir ve her grup için farklı stratejiler üretebilirler. Böylece işletmeler ekonomik faaliyetlerini daha verimli bir şekilde yürütebileceklerdir. Ayrıca, müşterilerin memnuniyet seviyelerinde bir artış olabilir. Bu şekilde rekabet avantajı sağlamak mümkündür. Çevrimiçi gıda pazarlamacıları, tüketicilerin kolaylık, fiyat avantajı ve güven algılarını artırmalı ve risk algılarını azaltmalıdır. Böylece hem tüketicilerin beklentileri karşılanacak hem de satın alma istekleri artacaktır. Tüketiciler çevrimiçi gıda alışverişlerinde ambalajlı ürünleri daha çok tercih etmekte ve taze gıdalardan uzak durmaktadır. Çevrimiçi perakende gıda satıcılarına taze ürünler sunma konusundaki endişeyi azaltacak önlemler alması tavsiye edilmektedir. Her bilimsel çalışmada olduğu gibi bu çalışmada da belirli sınırlılıklar bulunmaktadır. Çalışmanın ilk sınırlılığı kısıtlı bir bütçeyle ve kısıtlı bir zamanda gerçekleştirilmiş olmasıdır. Ayrıca, çalışma çevrimiçi olarak yapılmıştır. Bu nedenle çevrimiçi adaptasyonu yüksek gençlerin katılımı daha yüksektir. Araştırma, daha kapsamlı bir örnekleme uzun bir süre boyunca tekrar edilebilir.

1. INTRODUCTION

Many manufacturers and retailers have been using the internet into their channel strategy and making major expenditures in establishing an online channel since the early 2000s. Meanwhile, consumers began to see the internet as an important shopping place. The internet has considerably decreased search costs, facilitated product comparison, and provided easy product and price information access. As a result, it improves accessibility, convenience, and time efficiency. On the other hand, online buying does not allow physical product inspection (feeling, touching, sampling), interpersonal conversation, or immediate gratification. Shipping and handling charges are frequently incurred (Chu et al., 2010). Furthermore, offline buying allows for physical product examination, direct communication, and immediate client pleasure. Online shopping does not include restrictions on travel, product handling, or shopping hours. Nevertheless, it includes high travel and search costs (Grewal et al., 2004).

Understanding what inspires consumers to shop online necessitates an informative website design, strategy, technology, and marketing decisions (Wolfenbarger and Gilly, 2003). Consumers' perceptions of the benefits and hazards of online buying are critical in explaining their present shopping behavior and forecasting their desire to continue shopping online (Forsythe et al., 2006). The goal of online buyers is to maximize benefits while minimizing risks.

Consumers increasingly incorporate e-shopping into their daily routines (Hansen, 2005). Long web loading times, transaction issues, payment security, and buying low-quality food products in online food shopping have been eliminated thanks to quick advances in e-commerce. Due to the uncertainty of internet shopping, shoppers who perceive more risk seem to be less willing to buy online (Bhatnagar et al., 2000).

The continuous structural and technological advances in the environment and the commercial and social development of economies significantly impact the change in consumer attitudes and behaviors in the food market. The increasing diversity in consumers' expectations for food is their relationships with other cultures and the pursuit of cultural values and national identities. Food consumption is increasingly intertwined with various lifestyles. Hence, sometimes very different images and expectations are reflected in food products (Barska and Wojciechowska-Solis, 2018).

Along with the global online market, the online food market continues to rise (Heng et al., 2018). By overcoming issues such as high website loading times, transaction issues, payment security, and purchasing low-quality food products, rapid advancements in e-commerce have made online food shopping a part of consumers' daily life (Amir and Rizvi, 2017; Wang and Somogyi, 2018). The desire to buy food online is linked to changes in lifestyle and consumption patterns, as well as the convenience and time savings that online grocery and food shopping provide (Alaimo et al., 2020).

Food-related behavior is one of the most affected parts of daily life. Due to the COVID-19 pandemic, people's behavior toward food consumption and purchasing has changed (Marinković and Lazarević, 2021). The spread of the COVID-19 pandemic has reshaped the way of producing and consuming food. There has been an increase in the number of consumers purchasing food products online to comply with rules to limit the circulation of the virus (Alaimo et al., 2021). Retailers have renewed their online shopping management and digital technologies with COVID-19. Consumers, who want to maintain their social distance and fear that the shelves in the store are empty, have increased their interest in online food shopping (Alaimo et al., 2020).

This study examines the factors affecting consumers' online food shopping and tests the research model created in the theoretical framework. Differences between online shopping consumer groups regarding factors in the model are also examined. In addition, the effect of COVID-19 anxiety on consumers' online food shopping is also researched.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1. Purchase Intention

The consumer's tendency to incur costs to obtain a product will determine the online purchase intention in the online shopping environment. Purchase intention is defined as one of the components of consumer cognitive behavior regarding how an individual wants to purchase a particular product (Ling et al., 2010). Pavlou (2003) defines online purchase intention as a customer's willingness to participate in an online transaction. It is suggested that intentions indicate how people are willing to approach a particular behavior and how many attempts they make to perform it (Lim et al., 2016).

Purchase intent reveals the consumer's predictable behavior. In other words, it can be used to anticipate which products or brands customers will purchase the next time they go shopping. The customer's decision to buy a company's products and services is influenced by the quality of information available on the internet. Customers who use the information are eager to tell their friends and family about it (Özçiğci, 2020). The elements that influence online shopping purchase intent differ depending on the sector, product category, and even demographic structure (Heng et al., 2018).

2.2. Perceived Convenience

Shopping convenience (ease) is defined as the degree of perception of the consumer's avoidance of time and effort, as a multidimensional structure covering the entire shopping process (Karaođlan and Durukan, 2020). Shopping convenience is defined as the ability to shop from various places almost any time without visiting a store. Shopping convenience avoids the physical and emotional difficulties of shopping in other channels. These benefits stand out as the dominant reasons for out-of-store shopping. Product selection shows that a wide range of products and product information to support consumer decision-making is also an essential benefit of online shopping (Forsythe et al., 2006).

Consumers spend less time shopping and more time on other activities, and the desire for convenience has increased. Their attention has often turned to online shopping as an alternative tool (Jiang et al., 2013). Many consumers are turning to online shopping to minimize their decision-making effort. Online shopping is currently an option for consumers who want to save time and effort. They certainly provide more convenience as store location has become unimportant for online consumers. Consumers can now shop anywhere, 24 hours a day, seven days a week (Duarte et al., 2018). Based on the literature, the following hypothesis was developed.

H1: Perceived convenience increases purchase intention.

2.3. Perceived Risk

Shopping entails risk because a buyer's decision may have unforeseeable and potentially negative effects (Bauer, 1960). The risk in online shopping is higher than in physical shopping due to the spatial and temporal separation between buyers and vendors (Tan, 1999). According to research, perceived risk is a key driver of first-time and repeat purchase intention (Wang et al., 2006; Yang, 2007; Kuan et al., 2008; Brown and Jayakody, 2008). The structure of risk is multidimensional.

Consumers perceive risk when faced with uncertainties and potentially undesirable consequences during or after a purchase. Individuals avoid ambiguous situations because they feel threatened. Higher perceived online risk is often due to failure to fully monitor the seller's behavior or concerns about the security of online purchases. After consumers learn that online shopping can have negative consequences, they stop shopping online and stay away from them (Chiu et al., 2014). Based on all these, the hypothesis formed is as follows.

H2: Perceived risk reduces purchase intention.

2.4. Perceived Price Advantage

Price is the sacrifice made to obtain a product (Zeithaml, 1988). That is, it is the cost incurred when purchasing a product. Price is one of the two most important factors along with trust for consumers in online shopping and significantly affects the shopping intention of customers (Kim et al., 2011). The low price is an essential factor in consumers' purchasing. Price advantage is critical, especially in choosing undifferentiated products (Chiang and Jang, 2007). Price is also a precursor of value (Gupta and Kim, 2010). The decrease in costs, especially rent, is reflected in online shopping prices.

For this reason, one of the most critical factors affecting the tendency to online shopping is the price (Su and Huang, 2011). In addition to low prices, online shopping also reduces consumer costs with campaigns. Studies show that price perception directly or indirectly affects purchase intention in online shopping (Chiang and Dholakia, 2003; Faqih, 2016; Arora and Aggarwal, 2018). Based on the above, the hypothesis was formed as follows.

H3: Perceived price advantage increases purchase intention.

2.5. Perceived Trust

A sense of trust is defined as the desire to depend on someone or something (Chung and Kwon, 2009). Fam et al. (2004) also argued that trust is a dynamic process with customer satisfaction built over a certain period, contributing to satisfaction beyond economic output. Chen (2006) classified perceived trust in two ways: (1) as a belief, trust, attitude, or expectation about the reliability of another party, and (2) as a behavioral intention or behavior based on trust, including vulnerability and uncertainty.

In addition, one of the most critical problems faced by consumers who want to buy products or services online is that shopping sites are not secure (Suh and Han, 2003). Chellappa and Pavlou (2002) also suggested that variables such as encryption, protection, verification, and authentication of shopping sites should be antecedents that affect consumers' perceived trust. Trust plays a central role in transactions. The main reason why many consumers do not choose to shop online is their distrust of online shopping sites (Wu and Chang, 2006; Cyr, 2008). In previous studies, the effects of trust on purchase intention and consumer satisfaction and loyalty were examined (Kim and Lim, 2005; Lim and Kim, 2006). The hypothesis created is as follows.

H4: Perceived trust increases purchase intention.

2.6. Pandemic Anxiety

The COVID-19 disease emerged due to the SARS-CoV-2 virus epidemic in China in the last months of 2019. There have been several changes in people's lives due to the coronavirus. One of the most significant changes is that anxiety levels have increased with the pandemic. Concerns such as being physically close to other consumers during shopping, contact with products, and the possibility of virus infection indoors are directly related to physical store shopping. The possibility of the coronavirus causing severe health problems has created general anxiety.

Anxiety has been defined as a future-oriented, negative situation, a stimulus, a reaction, an impulse, and a motive (Endler and Kocovski, 2001). Individuals experience fear due to the threat of Covid (Paredes et al., 2021). The phenomenon of COVID-19 raises concerns for consumers due to its numerous uncertainties, such as when or where it may proliferate, mortality rate, and breakout time (Phang et al., 2021). People do not have enough information about viruses and the epidemic, and the uncertainty process causes them to react with anxiety (Kaur and Malik, 2020). Preliminary evidence from the current COVID-19 pandemic has revealed that trait anxiety and intolerance to uncertainty are associated with higher levels of threat perception and fear of coronavirus (Schmidt et al., 2021). People who think they are at risk try to avoid activities that may expose them to the virus (Hearn et al., 2021). For example, fear of infection may affect shopping motivation in in-store shopping, and people may be directed to online shopping (Park et al., 2022).

Online shopping is beneficial because it reduces the consumer's risk of infection by preventing contact with other people. (Koch et al., 2020). Fear of COVID-19 is a psychological factor that causes people to shop more online (Naeem, 2021). COVID-19 has rapidly reshaped consumer behavior as they take advantage of online shopping (Ali Taha et al., 2021). In other words, it is possible to think that pandemic anxiety affects online shopping. Fear of COVID-19 might moderate factors that influence consumers' intention to shop for food online. For these reasons, the following hypotheses were formed.

H5: Pandemic anxiety has a moderator effect on the relationship between perceived convenience and purchase intention.

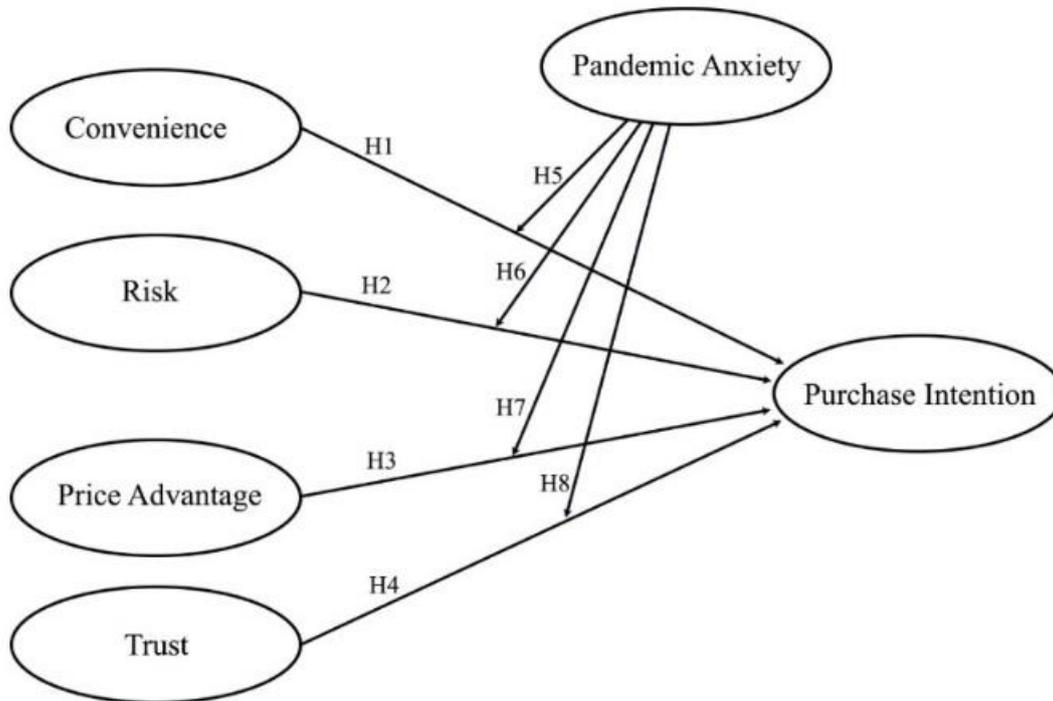
H6: Pandemic anxiety has a moderator effect on the relationship between perceived risk and purchase intention.

H7: Pandemic anxiety has a moderator effect on the relationship between price advantage and purchase intention.

H8: Pandemic anxiety has a moderator effect on the relationship between perceived trust and purchase intention.

The model to be analyzed, obtained from the hypotheses, is given in Figure 1.

Figure 1. Research Model and Hypotheses



2.7. Shopping Groups

Consumers are never homogeneous. Groups may behave differently in different sectors and channels. For example, Chu et al. (2010) examined online shoppers under three groups as light, moderate

and heavy, and found significant differences between their sensitivities. Forsythe et al. (2006) stated that there were differences in some factors in the perceived risk and perceived benefit dimensions of the online shoppers they examined in the two groups. Martin et al. (2015) found significant differences in the online shopping behaviors of the two groups, which they defined as frequent and infrequent online shoppers. For these reasons, it is thought that there will be differences when the participants in the study are grouped as different online shopping consumers. Thus, the hypotheses were established as follows.

H9: There is a difference between consumer groups' convenience perceptions.

H10: There is a difference between consumer groups' risk perceptions.

H11: There is a difference between consumer groups' trust perceptions.

H12: There is a difference between consumer groups' price advantage perceptions.

H13: There is a difference between consumer groups' online food purchase intentions.

H14: There is no difference between consumer groups' pandemic anxiety.

3. METHODOLOGY

3.1. Sample

The population consists of consumers living in Turkey and shopping online for food. The reason for determining the population is to examine the factors affecting the intention to purchase online food shopping and reveal the moderator effect of pandemic anxiety. An online survey was conducted between March 2021 and June 2021. Due to the COVID-19 pandemic conditions, online data collection was preferred. Technology communication tools, especially social media, were used to find volunteers for online surveys. A total of 421 volunteer participants were included in the study. Thirty-one participants were excluded from the analysis because they stated that they had never shopped online. Three hundred ninety participants' demographic information is given in Table 1.

Table 1. Demographic Information About Participants

Sex	Female 217 (55.64%)		Male 173 (44.36%)		
Age	18-29 221 (56.7%)	30-39 109 (27.9%)	40-49 47 (12.1%)	50 and above 13 (3.3%)	
Education	High School 100 (25.6%)	Associate 41 (10.5%)	Undergraduate 139 (35.6%)	Postgraduate 110 (28.2%)	
Income (Monthly ₺)	2500 and below 134 (34.4%)	2501-5000 85 (21.8%)	5001-7500 70 (17.9%)	7501-10000 55 (14.1%)	10001 and above 46 (11.8%)

3.2. Scale and Questionnaire Form

The questionnaire form was shared with the participants on Google forms online. The first part of the questionnaire consists of 3 descriptive questions about demographic information and online shopping. The second part consists of questions related to convenience, risk, price advantage, trust, anxiety (Threat Perception), and purchase intention factors to be used in the analysis. In this section, 22 questions were asked in a 7-point Likert format as “1- Strongly disagree 2- Disagree 3- Partly disagree 4- Neither agree nor disagree 5- Partly agree 6- Agree 7- Strongly agree”. Information on the scales to which the factors were adapted is given in Table 2.

Table 2. Factors, Research Questions, and Sources

Convenience	I don't have to leave my house while shopping for food online	<i>Forsythe et al. (2006); Wang and Somogyi (2018)</i>
	I can do online food shopping whenever I want.	
	I don't have to make an effort to go to the market for online food shopping	
	I can save a lot of time with online food shopping	
Risk	Return and exchange opportunities in online shopping are not as good as in supermarket / offline store	<i>Wang and Somogyi (2018)</i>
	Low-quality products or wrong products may come when purchasing food online	
	Internet payment security is not good enough	
Price advantage	Online shopping is more affordable	<i>M.-J. Kim et al. (2011)</i>
	More discounts are available for online shopping	
	Price advantage is provided by online shopping	
Trust	Online shopping sites care about their customers	<i>Chiu et al. (2009)</i>
	Online shopping sites keep their promises	
	Online shopping sites are reliable	
	Online shopping sites successfully conclude the transactions.	
Pandemic anxiety	If I am physically close to people, there is a possibility of contracting the coronavirus.	<i>This study</i>
	Coronavirus can be transmitted from products in stores	
	I get nervous about coronavirus while shopping at the market	
	Coronavirus can cause serious health problems and can have fatal consequences	
Purchase intention	I will continue to shop for food online in the future	<i>Zeithaml et al. (1996); Rose et al. (2012); Evanschitzky et al. (2012)</i>
	I recommend my friends and family to shop for food online	
	I will probably use the internet for online food shopping soon	
	I think I will shop for more food online in the future using the internet	

3.3. Data Analysis and Findings

In the first part, information on the answers given to the questions about the frequency and amount of online shopping, which are not included in the demographic information, are given in Table 3.

Table 3. Participants' Shopping Frequency and Quantity

	1-2 times	3-4 times	5-6 times	7 times and above
Frequency (monthly)	218 (55.9%)	86 (22.1%)	36 (9.2%)	50 (12.8%)
Quantity (monthly ₺)	250 and below	251-500	501-750	751 and above
	190 (48.7%)	100 (25.6%)	35 (9.0%)	65 (16.7%)

About half of the participants shop once or twice a month. They also usually spend small amounts of money. It is possible to group the participants with the information obtained here. Two-step cluster analysis was applied for grouping. The silhouette measure of cohesion and separation average silhouette value was 0.6, indicating that the clustering is good. As a result of the cluster analysis, three groups were formed. Groups are named light, moderate, and heavy online shoppers. Information about the groups is given in Table 4.

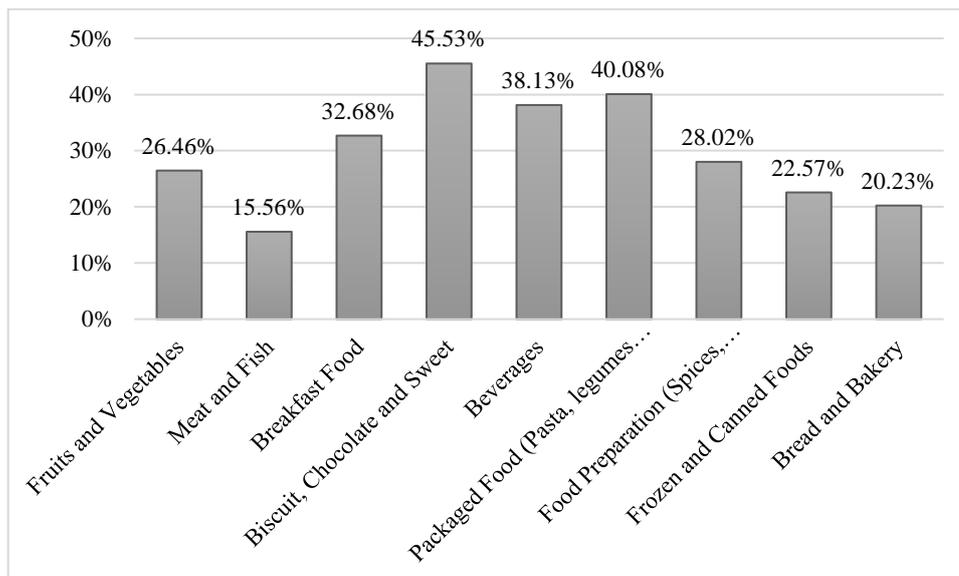
Table 4. Groups from Cluster Analysis

Cluster	E-shopping Frequency	E-Shopping Quantity				Total
		250 and below	251-500	501-750	751 and above	
Light Online Shoppers (LOS)	1-2 times	160	0	0	0	160
	Total	160	0	0	0	(41.06%) 160
Moderate Online Shoppers (MOS)	1-2 times	0	47	7	4	58
	3-4 times	22	37	17	10	86
	Total	22	84	24	14	(36.92%) 144
Heavy Online Shoppers (HOS)	5-6 times	3	8	7	18	36
	7 times and above	5	8	4	33	50
	Total	8	16	11	51	(22.05%) 86

The ratio of the largest group (Light Online Shoppers, n=160) and the smallest group (heavy online shoppers, n=86) is 1.86. It is seen that the LOS (Light Online Shoppers) do less shopping and spend less money. The HOS (Heavy Online Shoppers) shop more than other groups, and the MOS (Moderate Online Shoppers) are between these two groups.

After receiving information about the online shopping frequency of the participants, they were asked what products they buy in online food shopping. The graph of the answers given to this question is presented in Figure 2.

Figure 2. Food Products Purchased in Online Shopping



As shown in Figure 2, it is possible to say that packaged and long shelf-life products are preferred more frequently, while foods that are likely to spoil are less preferred.

At the next stage of the research, the model was tested. First, descriptive statistics of the data were obtained. Then, the kurtosis and skewness values were examined, and whether they fit the normal distribution was checked. Then, standardized regression weights, Cronbach's Alpha, CR (Composite Reliability), and AVE (Average Variance Extracted) values obtained from CFA (Confirmatory Factor Analysis) were obtained. Values are given in Table 5.

Table 5. Descriptive Statistics, Reliability and Validity Values

Factors	Mean	SD	Skewness	Kurtosis	Weight	Alpha	CR	AVE
Convenience						0.940	0.937	0.789
Co1	5.4821	1.9156	-1.092	-0.075	0.876			
Co2	5.3590	1.9171	-1.039	-0.130	0.820			
Co3	5.5692	1.7736	-1.254	0.569	0.959			
Co4	5.5846	1.7598	-1.232	0.551	0.892			
Risk						0.765	0.766	0.524
Rs1	4.3410	1.8627	-0.217	-1.027	0.654			
Rs2	4.4333	1.9091	-0.295	-1.055	0.779			
Rs3	3.5410	1.8117	0.223	-1.105	0.731			
Price Advantage						0.934	0.936	0.829
PA1	4.3410	1.8627	-0.186	-1.089	0.845			
PA2	4.5667	1.8489	-0.331	-1.023	0.935			
PA3	4.5026	1.8008	-0.225	-1.001	0.949			
Trust						0.938	0.943	0.805
Tr1	4.6410	1.8110	-0.455	-0.834	0.896			
Tr2	4.5410	1.7035	-0.365	-0.793	0.880			
Tr3	4.5154	1.6750	-0.497	-0.565	0.877			
Tr4	4.8410	1.7594	-0.713	-0.472	0.935			
Anxiety						0.900	0.900	0.696
An1	5.4282	1.8390	-1.119	0.090	0.916			
An2	4.6333	2.0284	-0.444	-1.095	0.640			
An3	5.0974	1.8837	-0.775	-0.598	0.850			
An4	5.7436	1.7566	-1.386	0.757	0.902			
Purchase Intention						0.960	0.956	0.846
PI1	4.9410	1.9184	-0.579	-0.868	0.947			
PI2	4.9564	1.9586	-0.636	-0.860	0.937			
PI3	4.9564	1.9162	-0.652	-0.751	0.905			
PI4	5.0359	2.0010	-0.702	-0.831	0.887			

As shown in Table 5, since alpha and CR values are above 0.7, there is no reliability problem. There is no validity problem since AVE values are above 0.5. Goodness of fit values as a result of CFA, $\chi^2/df=2,529$; GFI=0.902; CFI=0.967; RMSEA=0.063; SRMR=0.044 and TLI=0.960.

After the validity and reliability analysis, SEM (Structural Equation Model) was applied. As a result of the analysis with SEM, the values of goodness of fit were $\chi^2/df=2,324$; GFI=0.931; CFI=0.978;

RMSEA=0.058; SRMR=0.044 and TLI=0.972. The standardized regression weights obtained from the analysis are given in Table 6.

Table 6. Standardized Regression Weights

Relation			Weight	P-value
Purchase intention	<---	Convenience	0.248	<0.001
Purchase intention	<---	Risk	-0.089	0.046
Purchase intention	<---	Price	0.140	0.002
Purchase intention	<---	Trust	0.554	<0.001

As a result of the SEM analysis, the purchase intention factor's R2 value (Squared Multiple Correlation) was obtained as 0.692. As given in Table 6, the statistically significant effect of convenience and trust factors on purchase intention at $p < 0.001$ level, price factor at $p < 0.01$ level, and risk factor at $p < 0.05$ level was found. Thus, hypotheses H1, H2, H3, and H4 were accepted.

After testing the model, the moderator effect of pandemic anxiety was analyzed. The results obtained are given in Table 7.

Table 7. Moderating Effect of Pandemic Anxiety

Effect	ΔR^2	coeff	se	t	p	LLCI	ULCI
Co--->PI	0,0003	-0,0026	0,0052	-0,4944	0,6213	-0,0128	0,0077
Rs--->PI	0,0051	-0,0170	0,0082	-2,0750	0,0387	-0,0332	-0,0009
PA--->PI	0,0052	-0,0159	0,0073	-2,1878	0,0293	-0,0302	-0,0016
Tr--->PI	0,0001	-0,0021	0,0051	-0,4091	0,6827	-0,0121	0,0080

Pandemic anxiety has a moderator effect on the relationship between risk perception and price advantage with purchase intention. However, there is no moderator effect on the relationship between the perception of convenience and trust factors with purchase intention. Thus, while the H5 and H8 hypotheses were rejected, the H6 and H7 hypotheses were accepted.

Table 8 and Table 9 provide detailed information on statistically significant moderator effects. In Figure 3 and Figure 4, there are graphs related to the moderator effect.

Table 8. The Moderator Effect of Pandemic Anxiety on Risk and Purchase Intention Relation

Rs - PI	effect	se	t	p	LLCI	ULCI
Low	-0,0489	0,0795	-0,6145	0,5392	-0,2052	0,1075
Medium	-0,1612	0,0581	-2,7735	0,0058	-0,2755	-0,0469
High	-0,2735	0,0793	-3,4481	0,0006	-0,4295	-0,1176

Figure 3. The Moderator Effect of Pandemic Anxiety on The Relationship Between Risk and Purchase Intention

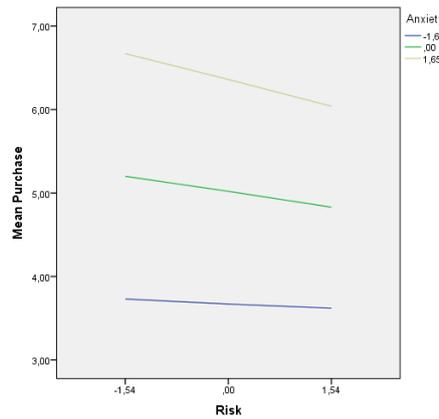


Table 8 shows the regression results according to low (-1 standard deviation), medium and high (+1 standard deviation) pandemic anxiety. The moderator effect on the relationship between risk perception and purchase intention is significant when pandemic anxiety is at medium and high levels.

Table 9. The Moderator Effect of Pandemic Anxiety on Price and Purchase Intention Relation

PA - PI	effect	se	t	p	LLCI	ULCI
Low	0,4742	0,0771	6,1513	0,0000	0,3226	0,6258
Medium	0,3693	0,0545	6,7734	0,0000	0,2621	0,4765
High	0,2645	0,0678	3,8997	0,0001	0,1311	0,3978

Figure 4. The Moderator Effect of Pandemic Anxiety on The Relationship Between Price and Purchase Intention

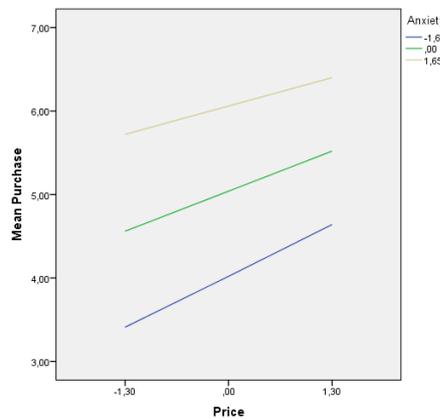


Table 9 shows the regression results according to low (-1 standard deviation), medium and high (+1 standard deviation) pandemic anxiety. It is seen that there is a significant effect at all levels in the relationship between price advantage and purchase intention.

Finally, it was analyzed whether there was a difference between the means of convenience, risk, price, trust, purchase intention, and anxiety factors of the groups obtained from the cluster analysis. For this, an ANOVA test was applied. Descriptive statistics data on groups and factors are given in Table 10.

Table 10. Group Means and Standard Deviations

Factor	Group	N	Mean	SD
Convenience	LOS	160	5.0594	1.76342
	MOS	144	5.6476	1.64306
	HOS	86	6.0669	1.44325
	Total	390	5.4987	1.69634
Risk	LOS	160	4.4312	1.52574
	MOS	144	3.8495	1.43755
	HOS	86	3.9264	1.61723
	Total	390	4.1051	1.53547
Price	LOS	160	4.2979	1.71750
	MOS	144	4.5093	1.80345
	HOS	86	4.7248	1.59098
	Total	390	4.4701	1.72671
Trust	LOS	160	4.1938	1.50965
	MOS	144	4.7413	1.60294
	HOS	86	5.2762	1.50344
	Total	390	4.6346	1.59535
Purchase Intention	LOS	160	4.3469	1.79775
	MOS	144	5.2118	1.87324
	HOS	86	5.7355	1.46446
	Total	390	4.9724	1.84132
Anxiety	LOS	160	5.0281	1.75101
	MOS	144	5.3247	1.62317
	HOS	86	5.4273	1.45969
	Total	390	5.2256	1.64802

ANOVA test was performed to compare the means given in Table 10. Afterward, post hoc tests were performed to analyze the mean differences between the groups. As a result of the homogeneity of variances analysis, variances in risk, price, and trust factors were homogeneous. Since the numbers of the groups were not equal, the LSD test was applied. Convenience, purchase intention, and anxiety factors' variances are not homogeneous. Games-Howell test was applied for these three factors. The results obtained are given in Table 11.

Table 11. P-Values of Post Hoc Tests

Groups	Co	Rs	PA	Tr	PI	Anxiety
Light-Moderate	0.008*	0.001*	0.286	0.002*	0.000*	0.277
Light-Heavy	0.000*	0.013*	0.065	0.000*	0.000*	0.140
Moderate-Heavy	0.109	0.710	0.359	0.011*	0.050	0.874

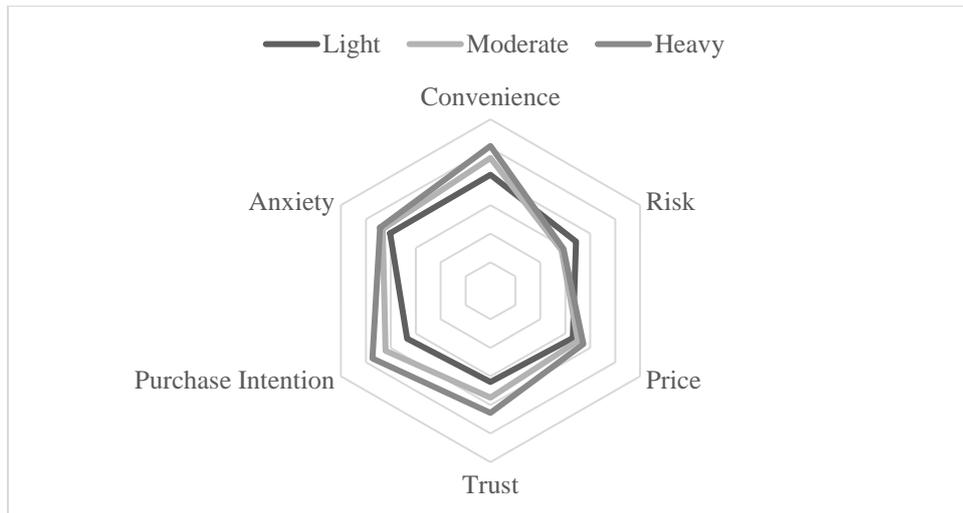
It is seen that the LOS differ from the MOS and HOS in the convenience, risk and trust perception, and purchase intention. MOS and HOS differ only in the trust factor. Although there was no difference in the pandemic anxiety factor as expected, there was no statistically significant difference between the three groups in the perceived price advantage factor. According to the findings, H9, H10, and H13 hypotheses were partially accepted. H11 hypothesis was rejected. H12 and H14 hypotheses were accepted.

When the obtained p-values are analyzed together with the means in Table 11, it is possible to make the following comments. The LOS' perceived convenience, trust, and purchase intentions are lower than the other two groups in online food shopping. However, their perceived risk is higher. In

comparing MOS and HOS groups, it is seen that HOS trust more online food shopping. In other factors, there was no difference between the means of both groups. There was no difference in price perception and pandemic anxiety factors between consumer groups.

The graphical representation of the means of shopping groups regarding the factors is presented in figure 5.

Figure 5. Online Shopping Groups' Factor Means



4. CONCLUSION

A short time ago, food shopping was a phenomenon where people went to physical stores and shopped retail. Courtesy of developing technology and internet retailing, almost all kinds of products started to be sold online. Thus, the adaptation to online shopping has increased constantly. The COVID-19 pandemic has had an accelerating effect on this process. Online food shopping has also become an alternative, especially for consumers who want to stay away from physical stores.

This study examined the effects of perceived convenience, risk, price advantage, and trust on online food purchase intention. Similar to the theoretical expectation, it was observed that each factor had a significant effect on purchase intention.

Pandemic anxiety measures the degree to which consumers want to stay away from physical stores and other people. It can be thought of as a kind of pandemic threat perception. The increase in pandemic anxiety partially influenced online food shopping as a moderator. If anxiety had been added to the model as an independent variable, it would have a direct impact on purchase intention.

The behavior of consumer groups called light, moderate, and heavy online shoppers are different. Segmenting consumers is vital for effective marketing management. One of the most critical consumer grouping criteria in online shopping is the frequency and amount of shopping. Consumers'

responses have different means in factors other than the perceived price advantage in the model. Consumers shop more often, feel more comfortable, feel more confident, and perceive lower risk.

Marketing managers can segment their customers and produce different strategies for each group. Businesses can carry out their economic activities more efficiently. Moreover, there may be an increase in customers' satisfaction levels. In this way, it is possible to provide a competitive advantage.

Online food marketers should increase consumers' perceptions of convenience, price advantage, and trust and reduce their risk perceptions. Thus, both consumers' expectations will be met, and their purchase intentions will increase. Consumers prefer packaged products more in online food shopping and stay away from fresh foods. Online retail food vendors can increase consumer satisfaction and reduce anxiety about delivering fresh products. Thus, it is possible to improve in the less demanded categories.

The first limitation of the study is that it was carried out with a limited budget and in a limited time. In addition, the study was conducted online. For this reason, young people with high online adaptation are more likely to participate. The research can be repeated over an extended period and with a more inclusive sample. Another limitation of the study is that it was conducted in only one country. A comparative analysis of offline-online food consumers can be made further. Studies can be spread over time, and changes in results can be observed. Studies can be done by adding pandemic anxiety to the model as a separate factor.

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