Online Shopping Attitude In Turkey: Evidence From The Household Budget Survey

Fatih Hakan DİKMEN[1]   Dilek BAŞAR[2]

Abstract

The aim of the study is to examine the determinants of online shopping attitude in Turkey within the lifestyle approach. This study clarifies the features of households associated with online shopping behaviour and this may assist policymakers to develop effective policies such as the improvement of appropriate marketing strategies aimed at keeping current online customers and attracting the new ones. The nationally representative Household Budget Survey (HBS) micro data set obtained from the Turkish Statistical Institute for 2019 is used in the empirical analysis. The ordered probit model is employed to determine the factors affecting online shopping attitude of households. The analysis's findings highlight the fact that household income is the factor that has the highest impact on online shopping. Furthermore, gender, age, the highest educational attainment, and financial status of the household head are all key factors in online shopping behaviour, according to the results of the ordered probit model. Finally, the job industry code of the household head, household type, ownership status of the house, accessibility to in-store shopping facilities and the existence of the household member who has a saving behaviour and who has a newspaper or magazines habit have statistically significant associations with online shopping behaviour.

Keywords: Online Shopping, Household Budget Survey, Ordered Probit Method, Lifestyle Approach
JEL-Codes: C35; D12; M21

Türkiye'de Çevrimiçi Alışveriş Davranışları: Hanehalkı Bütçe Anketi

Öz

Bu çalışmanın amacı, Türkiye'de internet üzerinden (online) yapılan alışveriş davranışının belirleyicilerini yaşam tarzı yaklaşımı çerçevesinde incelemektir. Bununla birlikte, bu çalışma internet üzerinden alışveriş yapan hanehalklarının temel özelliklerini açıklamaya çalışmakla birlikte, politika yapıcıları için mevcut çevrimiçi alışveriş müşterilerini elde tutmayı ve yenilerini çekmeyi amaçlayan uygun pazarlama stratejilerinin geliştirilmesi gibi politikaların tasarlamasına ışık tutmayı da hedeflemektedir. Bu amaçla, Türkiye İstatistik Kurumu (TÜİK) tarafından en son 2019 yılında yapılan ve tüm ülkeyi temsil eden Hanehalkı Bütçe Anketi (HBA) mikro veri seti kullanılmıştır. Çalışmada hanehalklarının internet üzerinden alışveriş tutumlarını ampirik olarak belirlemek için sıralı probit tahmin yöntemi kullanılmıştır. Analiz sonuçlarına bakıldığında, internet alışverişi üzerinde en fazla etkiye sahip olan değişkenin hane geliri olduğu dikkat çekmektedir. Bununla birlikte hane reisinin cinsiyeti, yaşı ve eğitim durumunun internet üzerinden alışveriş davranışında önemli bir rol oynadığını görülmüştür. Son olarak, hane reisinin meslek kodu, hane tipi, evin mülkiyet durumu, mağaza içi alışveriş olanaklarına erişim ve hanede tasarruf davranışı olup olmaması ile gazete veya dergi alışkanlığı olan bireyin varlığı değişkenlerinin internet üzerinden yapılan alışveriş davranışı ile istatistiki olarak anlamlı ilişkilere sahip olduğu tespit edilmiştir.

Anahtar Kelimeler: İnternet alışverişi, Hanehalkı Bütçe Anketi, Sıralı probit yöntemi, Yaşam tarzı yaklaşımı
JEL Kodları: C35; D12; M21

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[1] Doç. Dr., Ankara Hacı Bayram Veli Üniversitesi, İİBF, İktisat Bölümü, fatih.dikmen@hbv.edu.tr, ORCID: 0000-0001-6390-2501
[2] Prof. Dr., Hacettepe Üniversitesi, İİBF, İktisat Bölümü, dbasar@hacettepe.edu.tr, ORCID: 0000-0001-6501-8760

1. INTRODUCTION

In today's world, with the rapid advances in information and computer technologies, the components of economic activities have changed and the share of shopping over the internet has increased. Exchanging goods through an electronic channel provides a new market, and this market is gradually becoming a replacement for traditional brick-and-mortar stores (Changchit *et al.* 2018). On the other hand, the volume of e-trade has been increasing day by day around the world with a rapid acceleration.

According to the European Union (EU) statistical office, Eurostat, in 2019, while 30 percent of people in Turkey shopped online at least once, it was 63 percent in the EU. Turkey ranks 31st among 38 countries in Europe. On the other hand, while this rate was 36 percent on average in the EU in 2009, it increased to 63 percent in 2019. The rate of online shoppers increased from 3 percent to 30 percent in the same period in Turkey (Eurostat, 2020).

There are several reasons that can explain the rapid growth in online trade volume. First, lower prices generally offered by online sellers are the main factor explaining this growth. In addition to the monetary factors, as a main non-monetary benefit of online shopping, it reduces the time cost. Among the most important reasons why consumers prefer internet shopping in general are that they can compare products and services more easily in terms of both price and quality. Furthermore, they can gain information more easily and benefit from the experiences of other users. Moreover, internet users are not limited to a specific geographical area or/and they do not have to do shopping in a specific time span. They can go shopping whenever or/and wherever they want. In general, the advantages offered by online shopping in various subjects can be listed as the diversity of choices and prices, original services that can be found online but not elsewhere, access to easy and abundant information, and the fact that consumers feel more comfortable than in-store (Ahuja *et al.*, 2003).

The extant literature has several research using a variety of methodologies on the variables that influence consumers' online shopping behaviour. In addition to the demographic characteristics of consumers (Sim and Koi, 2002; Naseri and Elliott, 2011), there are approaches emphasizing that prices and expectations, consumer loans, technological developments, and psychological and socio-cultural factors of individuals are also effective on online shopping behaviour (Akhter, 2012). Further, perceived benefit, perceived risk, interest in e-commerce (Teo, 2002), product and financial risk, suitability, product variety and price awareness, accessibility in the physical store (Yaraş *et al.*, 2017), income (Hernández *et al.*, 2011) are other factors that are used to explain online shopping behaviour.

On the other hand, there are many reasons for consumers not to shop online. First, consumers may perceive online shopping as risky. In many studies, security problem is seen as the most important obstacle for consumers shopping online (Liao and Cheung, 2001; Armağan and Turan, 2014). Among the most significant perceived risks are credit card security and sharing of identity information (Saydan, 2008). Second, consumers mostly prefer "touch-and-feel" type of shopping and they see shopping as a social activity. The prolongation of the delivery time of the product after shopping is another factor that negatively affects the purchase on the internet (Kurtuldu and Şahin, 2003). Moreover, specific to Turkey, according to the Turkstat Household Budget Survey (HBS) (2019), 48% of the respondents do not have a credit card, which can be regarded as one of the important reasons for preferring in store shopping. There are four main categories that applied to the aim of examining the factors affecting online shopping behaviour proposed by Pachauri (2002). The economics of information branch essentially handles the perceived efficiency of purchasing online. In other words, this branch deals with consumer preferences for shopping channels by investigating the subjective costs, particularly time costs, of seeking information for different channels. If this type of costs decrease with online shopping, consumers prefer buying online to other modes. On the other hand, if this cost is equal or more according to consumer perception, the consumer will prefer other modes (Bosnjak *et al*., 2007). There are some studies based on this approach in the existing literature (Ward and Lee, 2000; Biswas, 2004).

The second branch, the cognitive cost approach is based on the premise that consumers make an optimization relating to the price and quality of products, reliability of online supplier as well as minimizing the cognitive costs associated with interpreting alternatives and making decisions (Bosnjak *et al*., 2007). There are also many studies taking into consideration the cognitive cost approach in the existing literature (Miyazaki and Fernandez 2001; Thompson, 2002).

The lifestyle approach considers socioeconomic and demographic characteristics of potential consumers as well as perceptional characteristics. Park *et al.* (2013), for example, examined the characteristics of individuals who shop and not shop online from different aspects based on surveys applied for Korea, using 28 consumer lifestyle measurement items. The findings of their analysis showed that individuals who shopped online were unmarried, had relatively low incomes, and had more experience in accessing the internet.

Finally, the contextual influence attempt examines the effect of navigational instruments as well as atmosphere on online-shopping behaviour. For example, Senecal *et al.* (2005) analysed the issue that how various online decision-making techniques are used by consumers

and how it affects how sophisticated their online shopping behaviour is. With this aim, they conducted an online experiment and respondents were asked to implement a shopping task on a website offering product recommendations. According to their findings, consulting a product recommendation and online shopping behaviour complexity (specifically, less complex online buying behaviour) are positively correlated. (e.g., fewer web pages viewed)).

There are also some studies related to online shopping for Turkey. Armağan and Turan (2014) analysed the demographic determinants of online shopping. According to their findings, as education level and income level increase, the volume of online shopping also increases. Furthermore, contrary to the literature, there are no differences between female and male in terms of online shopping and they found that young adults are more likely to do shopping over internet than elders.

Marangoz et al. (2019) using the 2016 Household Information Technologies Usage Survey tried to explain the online shopping behaviour of consumers. They found that all the demographic factors had an effect on internet shopping. In addition to this, it was also found that while there are positive associations between the online shopping and level of education and income and, is a negative relationship between the online shopping and the size of household.

Özgüven (2011) examined the connection between demographic traits and customer attitudes regarding internet buying. The findings indicate that females, individuals with higher education levels, individuals with higher income and young people have a higher tendency to shop online.

Although there are many studies in the literature on the issue, the number of studies using socio-economic and demographic variables and micro data within the framework of the lifestyle approach is quite limited. To the authors' best knowledge, this study is the first attempt to examine the factors affecting consumer shopping behaviour and attitudes towards internet shopping in Turkey under the lifestyle framework using the latest HBS. This study employs the ordered probit model as an empirical methodology to examine online shopping behaviour intentions and intensity of the consumers. The ordered probit model is used in this study as an empirical method to examine online shopping behaviour and intensity of the consumers.

The remaining chapters are structured as follows: The next section briefly explains a description of the data, the variables utilized in the analysis, the descriptive statistics, and the ordered probit method used in the empirical analysis. The third section summarizes the main findings, and the last section concludes the study with policy implications, contributions and limitations.

2. MATERIAL AND METHODS

The HBS for 2019, which is the latest available household survey conducted by the Turkish Statistical Institute, is used in the study. This survey, which is nationally representative of the whole country, is administered to 11521 households. One of the main features of the HBSs made since 2002 is that they are prepared in the form of a cross-section rather than a panel data format. The survey's questionnaire basically consists of the following chapters: variables associated with the households' socio-economic status, spending on consumption and individual-specific factors, variables related to employment status, income from both the primary economic activity and from subsidiary economic activities (Kilic, 2012). Table 1 summarizes the definition of independent variables, which are chosen in line with the existing literature. On the other hand, to construct the ordered dependent variable, the following question is used: whether the household had a habit of shopping via internet or not. The answers are the individual has no online shopping habit at all, has a habit of online shopping once a month, has a habit of online shopping 2 or 3 times a month and has a habit of online shopping once a week, 2 or 3 times a week and almost every day.

Table 1: Definition of Independent Variables

Variables	Explanations	Classifications
Gender	The head of the household's gender	Female (base category) Male
Age	Age of the household head (reported categorically)	<=35 (young adults) (base category) 35-50 (middle age) 50-65 Old age) 65+ Elderly
Education	The highest level of education attainment by the head of the household	No Diploma (base category) Primary Secondary High School University Master or Higher
Household income*	Information regarding household income level (reported categorically)	Lowest (<=25000 TL) (base category) Low (25000-50000 TL) Middle (50000-75000TL) High (75000-100000TL) Highest (100000+TL)
Household type	Information regarding the household type	One-person households Couple without resident children Couple with at least one resident child Lone parents with at least one resident child** Extended-family households (base category)*** Multi-person no-family households****
Ownership status	Status of the household's home as an owner	Tenant (base category) Residential owner

		Residents of lodging
Saving behaviour	Whether the household has any member saving or not	Yes
Accessibility to shopping services and facilities	Access to "daily shopping" services, taking into account the place of residence	Very Easy Easy Neutral Difficult Very Difficult (base category)
Job	Industry code for the primary occupation (household head)	Unemployed Agriculture, forestry and fishing Mining and quarrying Manufacturing Electricity, gas, steam and air conditioning supply & water supply Construction and Real Estate Wholesale and retail trade Transportation and storage Accommodation and food service activities İnformation and communication Financial and insurance activities Professional, scientific and technical activities Public administration and defense; compulsory social security Education Human health and social work activities Arts, entertainment and recreation Other service activities (base category)
Newspaper or magazines attitude	Whether or not a member of the household regularly purchases daily newspapers, weekly magazines, or monthly publications.	Yes

* At the time the study was conducted, the exchange rate was 1$ = 8.50 TL.
** Lone parents who have at least one resident child; individuals who live alone; or families in which one or both parents are missing (i.e. gone for somewhere else to work or for other purposes, as a result of divorce or death of a parent)
*** Extended-family households are large families with at least two generations that include a mother, father, and/or children as well as aunts, uncles, grandparents, and other relatives.
**** Multi-person no-family households; is a group of persons living together.

Descriptive statistics related to the sample and the online shopping habits are presented in Table 2. As can be seen from the table, most of the sample consists of male household heads. Only about a quarter of those surveyed are females. Moreover, male and female household heads' online shopping tendencies and frequencies are very close to each other.

Regarding to the highest educational attainment, primary school graduates have the greatest share of the sample as 39,62%. According to the table, as education level increases, online shopping ratio increases in every category as well. There is also a positive relationship between the household income level and online shopping habit. As income level rises, shopping

on internet habit also rises categorically. On the other hand, as can be seen in the first column of household income, lower-income level households shop less on internet.

Table 2: Descriptive statistics about the categorical variables and online shopping habits

Variables	Number of Observations (%)				Share in Total (%)
	0*	1**	2***	3****	
Gender					
Female	2330 (83,20)	213 (7,95)	97 (3,62)	40 (1,49)	2680 (23,26)
Male	7587 (85,81)	765 (8,65)	389 (4,40)	100 (1,13)	8841 (76,74)
Education Level					
No Diploma	1491 (98,03)	21 (1,38)	8 (0,53)	1 (0,07)	1521 (13,20)
Primary	4361 (95,53)	160 (3,50)	38 (0,83)	6 (0,13)	4565 (39,62)
Secondary	1011 (65,39)	82 (5,30)	31 (2,01)	3 (0,19)	1546 (13,42)
High School	1531 (81,57)	225 (11,99)	93 (4,95)	28 (1,49)	1877 (16,29)
University	1032 (59,34)	393 (22,60)	238 (13,69)	76 (4,37)	1739 (15,09)
Master and Higher	115 (42,12)	69 (25,27)	66 (24,18)	23 (8,42)	273 (2,37)
Household income					
Lowest	1372 (97,93)	19 (1,36)	9 (0,64)	1 (0,07)	1401 (12,16)
Low	3932 (94,29)	172 (4,12)	50 (1,20)	16 (0,38)	4170 (36,19)
Middle	2480 (87,76)	228 (8,07)	96 (3,40)	22 (0,78)	2826 (24,53)
High	1125 (78,02)	222 (15,40)	76 (5,27)	19 (1,32)	1442 (12,52)
Highest	1008 (59,92)	337 (20,04)	255 (15,16)	82 (4,88)	1682 (14,60)
Age groups					
Young Adults (<=35)	1223 (68,21)	297 (16,56)	199 (11,10)	74 (4,13)	1793 (15,56)
Middle Age (35-50)	3254 (83,69)	399 (10,26)	187 (4,81)	48 (1,23)	3888 (33,75)
Old Age (50-65)	3190 (90,50)	234 (6,64)	88 (2,50)	13 (0,37)	3525 (30,60)
Elderly 65+	2250 (97,19)	48 (2,07)	12 (0,52)	5 (0,22)	2315 (20,09)
Household Type					
One-person households	1039 (84,88)	102 (8,33)	60 (4,90)	23 (1,88)	1224 (10,62)
Couple without resident children	2098 (78,69)	92 (3,45)	59 (2,21)	17 (0,64)	2266 (19,67)
Couple with at least one resident child	4516 (82,54)	603 (11,02)	285 (5,21)	67 (1,22)	5471 (47,49)
Lone parents with at least one resident child	783 (87,29)	76 (8,47)	30 (3,34)	8 (0,89)	897 (7,79)
Extended-family households	1322 (92,97)	66 (4,64)	26 (1,83)	8 (0,56)	1422 (12,34)
Multi-person no-family households	159 (65,97)	39 (16,18)	26 (10,79)	17 (7,05)	241 (2,09)
Ownership status					
Residential owner	6330 (89,24)	502 (7,08)	211 (2,97)	50 (0,70)	7093 (61,57)
Tenant	1982 (76,88)	340 (13,19)	194 (7,53)	62 (2,40)	2578 (22,38)
Residents of lodging	1605 (86,76)	136 (7,35)	81 (4,38)	28 (1,51)	1850 (16,06)
Accessibility to shopping services and facilities					

	*	**	***	****	Total
Very Easy	1732 (78,44)	269 (12,18)	152 (6,88)	55 (2,49)	2208 (19,16)
Easy	4851 (84,17)	575 (9,98)	268 (4,65)	69 (1,20)	5763 (50,02)
Neutral	1009 (90,09)	67 (5,98)	37 (3,30)	7 (0,63)	1120 (9,72)
Difficult	1730 (95,00)	59 (3,24)	25 (1,37)	7 (0,38)	1821 (15,81)
Very Difficult	595 (97,70)	8 (1,31)	4 (0,66)	2 (0,33)	609 (5,29)
Main industry code in the main job					
Unemployed	3478 (91,94)	208 (5,50)	77 (2,04)	20 (0,53)	3783 (32,84)
Agriculture, forestry and fishing	1437 (97,09)	36 (2,43)	7 (0,47)	0 (0,00)	1480 (12,85)
Quarrying and mining	47 (92,16)	1 (1,96)	3 (5,88)	0 (0,00)	51 (0,44)
Manufacturing	942 (83,44)	129 (11,43)	50 (4,43)	8 (0,71)	1129 (9,80)
Water supply, supply of electricity, gas, steam, and air conditioning	48 (77,42)	7 (11,29)	7 (11,29)	0 (0,00)	62 (0,54)
Construction and Real Estate	459 (87,76)	35 (6,69)	25 (4,78)	4 (0,76)	523 (4,54)
Retail and wholesale trading	780 (80,58)	107 (11,05)	57 (5,89)	24 (2,48)	968 (8,40)
Transportation and storage	320 (86,25)	29 (7,82)	17 (4,58)	5 (1,35)	371 (3,22)
Accommodation and food service activities	274 (86,71)	33 (10,44)	7 (2,22)	2 (0,63)	316 (2,74)
İnformation and communication	17 (36,96)	10 (21,74)	8 (17,39)	11 (23,91)	46 (0,40)
Financial and insurance activities	35 (50,72)	13 (18,84)	17 (24,64)	4 (5,80)	69 (0,60)
Professional, scientific and technical activities	254 (69,59)	60 (16,44)	41 (11,23)	10 (2,74)	365 (3,17)
Public administration and defence; compulsory social security	489 (67,26)	133 (18,29)	83 (11,42)	22 (3,03)	727 (6,31)
Education	193 (54,83)	88 (25,00)	56 (15,91)	15 (4,26)	352 (3,06)
Human health and social work activities	180 (70,59)	50 (19,61)	15 (5,88)	10 (3,92)	255 (2,21)
Arts, entertainment and recreation	21 (75,00)	4 (14,29)	3 (10,71)	0 (0,00)	28 (0,24)
Other service activities	192 (93,20)	11 (5,34)	2 (0,97)	1 (0,49)	206 (1,79)
Saving	3579 (78,23)	594 (12,98)	306 (6,69)	96 (2,10)	4575 (39,71)
Newspaper or magazines habit	434 (71,85)	101 (16,72)	50 (8,28)	19 (3,15)	604 (5,24)
Total Number of Observations	**9917 (86,08)**	**978 (8,49)**	**486 (4,22)**	**140 (1,22)**	**11521 (100)**

*No internet shopping
**Once a month
*** 2 or 3 times a month
**** Virtually daily, twice or three times every week, or once a week

Considering the age groups, there is a negative association between age and online shopping habit. As expected, household heads called young adults under 35, shop much more than the other age categories, although they consist of the lowest percentage of the sample. Household types are another important variable thought to affect online shopping. Accordingly, a large part of the Turkish family structure consists of couple with at least one resident child. On the other hand, the most common type of households that shop online are multi-person no-family households.

Main industry code is another control variable in the analysis. Unemployed household heads have the largest portion of the sample. Those who make the most and most frequent internet shopping are household heads working in the information and communication sector. While only 37% of these households never shop online, 97% of households working in agriculture, forestry and fisheries do not shop online at all. Finally, as can be seen in the last line, the total number of observations is 11521 and only about 14% of them shop online at certain frequencies.

When the outcome of interest is categorical in nature, an ordered probit model is a frequently utilized framework (Kilic, 2012). In this study, the ordered probit model, where different frequency of online shopping, is analysed to determine the factors affecting online shopping behaviour in Turkey.

The ordered probit model- can be expressed in the following form:

$$y_j = \beta' x_j + u_j \tag{1}$$

where y_j is the propensity of online shopping for the jth individual, β is a $k \times 1$ parameter vector, x_j is a $k \times 1$ vector for individual characteristics and u_j is the stochastic disturbance term (Greene, 2003).

In the model, we observe y_j such that:

$$C_j = c \quad \text{if} \quad \mu_c \leq y_j \leq \mu_{c+1} \quad \text{for} \quad c = 0,1,2,3, \tag{2}$$

where c takes the following form for the sample:

$$c = \begin{cases} 0 \text{ no online shopping} \\ 1 \text{ online shopping once a month} \\ 2 \text{ online shopping 2 or 3 times a month} \\ 3 \text{ online shopping once a week, 2 or 3 times a week, almost everyday} \end{cases}$$

where the μ's denote the threshold (cut-off) values where $\mu_0 < \mu_1 < \cdots < \mu_5$, $\mu_0 = -\infty$ and $\mu_5 = +\infty$. Hence, the following is the conditional probability of observing the cth category:

$$\Pr(C_j = c \mid x_j) = \Pr(\mu_c \leq \beta' x_j + u_j \leq \mu_{c+1}) \tag{3}$$

The conditional probabilities can be represented as follows assuming a typical normal distribution for the stochastic disturbance term (u jN(0,1)):

$$\Pr(C_j = c \mid x_j) = \Phi(\mu_{c+1} - \beta' x_j) - \Phi(\mu_c - \beta' x_j) \tag{4}$$

where Φ denotes the normal cumulative density function with $\Phi(-\infty) = 0$ and $\Phi(+\infty) = 1$ (Maddala, 1983; Greene, 2003).

3. FINDINGS

Table 3 presents the estimation outcomes and marginal effects of the ordered probit model. Marginal effects allow for the observation of the magnitude of the effects of a change in the

independent variables on each transition, even though the parameter estimates of an ordered probit model indicate the direction of the relationships and the statistical significance levels for the independent variables in the model (Kilic, 2012).

Table 3: The Estimation Results and Marginal Effects of Ordered Probit Model

Variables	Coefficients (Standard error)	No internet shopping	Once a month	2 or 3 times a month	Once a week/ 2 or 3 times a week/ almost every day
Female	0,095** (0,049)	-0.015*	0.007*	0.005*	0.002*
Primary	0,094 (0,072)	-0.014	0.007	0.005	0.002
Secondary	0,339*** (0,072)	-0.058***	0.027***	0.020***	0.010***
High School	0,480*** (0,071)	-0.083***	0.039***	0.028***	0.014***
University	0,786*** (0,074)	-0.155***	0.077***	0.055***	0.022***
Master and Higher	0,993*** (0,102)	-0.216***	0.089***	0.080***	0.047***
Low	0,405*** (0,097)	-0.066***	0.030***	0.023***	0.012***
Middle	0,721*** (0,099)	-0.125***	0.055***	0.044***	0.025***
High	1,042*** (0,104)	-0.210***	0.088***	0.074***	0.046***
Highest	1,438*** (0,105)	-0.327***	0.139***	0.121***	0.066***
Middle Age (35-50)	-0,530*** (0,046)	0.080***	-0.039***	-0.028***	-0.012***
Old Age (50-65)	-0,656*** (0,055)	0.096***	-0.050***	-0.032***	-0.012***
Elderly 65+	-1,032*** (0,081)	0.122***	-0.070***	-0.039***	-0.012***
One-person households	0,458*** (0,090)	-0.083***	0.038***	0.029***	0.014***
Couple without resident children	-0,125* (0,076)	0.019*	-0.009*	-0.006*	-0.002*
Couple with at least one resident child	0,127** (0,062)	-0.020**	0.010**	0.006**	0.002*
Lone parents with at least one resident child	0,255*** (0,085)	-0.043***	0.021***	0.015***	0.007**
Multi-person no-family households	0,525*** (0,108)	-0.099***	0.045***	0.035***	0.018***
Residential owner	-0,185*** (0,041)	0.029***	-0.014***	-0.010***	-0.004***
Residents of lodging	-0,158*** (0,051)	0.023***	-0.012***	-0.008***	-0.003***
Easy	-0,065* (0,039)	0.010*	-0.005*	-0.003*	-0.001*
Neutral	-0,105* (0,067)	0.016*	-0.008	-0.005*	-0.002*
Difficult	-0,216*** (0,068)	0.032***	-0.016***	-0.010***	-0.004***
Very difficult	-0,400*** (0,137)	0.054***	-0.029***	-0.018***	-0.006***
Unemployed	0,366*** (0,096)	-0.060***	0.028***	0.021***	0.010***
Agriculture, forestry and fishing	0,021 (0,117)	-0.003	0.001	0.001	0.0005
Quarrying and mining	0,087 (0,292)	-0.014	0.007	0.004	0.002
Manufacturing	0,299*** (0,102)	-0.051***	0.024***	0.017***	0.008**
Water supply, supply of electricity, gas, steam, and air conditioning	0,299 (0,208)	-0.052	0.025	0.018	0.008
Construction and Real Estate	0,421*** (0,117)	-0.076***	0.035***	0.027***	0.013***
Retail and wholesale trading	0,433*** (0,101)	-0.077***	0.036***	0.027***	0.013***
Transportation and storage	0,172 (0,125)	-0.028	0.014	0.010	0.004

Accommodation and food service activities	0,217* (0,131)	-0.036	0.017	0.012	0.006
Information and communication	1,028*** (0,191)	-0.225***	0.089***	0.082***	0.053***
Financial and insurance activities	0,508*** (0,168)	-0.096***	0.043***	0.034***	0.017**
Professional, scientific and technical activities	0,417*** (0,112)	-0.076***	0.035***	0.026***	0.013***
Public administration and defense; compulsory social security	0,373*** (0,103)	-0.066***	0.032***	0.023***	0.011***
Education	0,401*** (0,111)	-0.073***	0.034***	0.026***	0.012***
Human health and social work activities	0,203* (0,124)	-0.034	0.016	0.012	0.005
Arts, entertainment and recreation	0,516* (0,287)	-0.097	0.044*	0.035	0.018
Saving	0,100** (0,372)	-0.015***	0.008***	0.005***	0.002**
Newspaper or magazines habit	0,176** (0,061)	-0.029***	0.014***	0.010***	0.004**

Notes:1) *** p<0.01. ** p<0.05. * p<0.1

2) Columns 3,4,5 and 6 report the marginal effects.

The ordered probit model's findings show that gender is a crucial factor for the probability of online shopping. Compared to households headed by men, households headed by women are more likely to shop online. The marginal effects demonstrate that the most likely frequency condition is once a month among all transitions. In terms of the education status, the higher the education level of the household head, the higher the probability of households to shop online. For instance, if the household head has a master's or PhD degree, it rises the probability of making an online purchase by 8.9 percent per month whereas the impact of the same education level on the online shopping 2 or 3 times a month is 8 percent.

The variable with the highest absolute marginal effect across all explanatory factors is the level of household income. Accordingly, there is a significant and favourable correlation between higher levels of household income and the likelihood of internet shopping. For example, for the highest level of income, the probability of online shopping once a month is 13.9 percentage points higher compared to the lowest level of household income. In a similar vein, the impact of the highest income level on the online shopping once a week/2 or 3 times a week and almost every day is 6.6 percent higher than the poorest quintile. However, the estimation results demonstrate that those who are tenants are more likely to shop online than those who own a house and have lodging facilities.

Another significant household factor is the household head's age, which has a significant impact on the likelihood of online shopping. Compared to elderly household heads, younger household heads have more positive attitudes towards online shopping. In terms of the association between the household type and propensity of online shopping, the estimation results reveal that compared to large family type, one-person households, couple with at least

one resident child, lone parents with at least one resident child and multi-person no-family households are more likely to shop online. Only couple without resident children household type has a lower probability for online shopping compared to the reference category. Furthermore, the marginal effect for the type of multi-person no-family household is the largest in magnitude among all types of households.

One of the interesting findings of this study is about the job industry code of the household head. The estimation results suggest that households with unemployed household head are more likely to shop online as compared to households with household head working in other service activities. Household heads working in manufacturing, construction and real estates, wholesale and retail trade, information and communication, insurance and financial activities, professional, scientific, and technical activities, public administration and defense, compulsory social security, education have a statistically significant and higher probability for online shopping. The largest marginal effects, on the other hand, belong to the information and communication sector and financial and insurance activities. This finding implies that employees in industries that are more related to the internet and banking tend to do more online shopping.

It is also crucial for policy makers to know whether accessibility to shopping services and facilities affects online shopping behaviour to construct effective policies for the development of appropriate marketing strategies. The estimation results indicate that as they are physically deprived of shopping opportunities, individuals tend to do less online shopping. In other words, if it is easy to access shopping services and facilities, households are more likely to shop online. Finally, if there is a household member who is a saving habit or who typically purchases a daily newspaper, weekly, monthly magazines in the household, it is more likely for this household to shop online.

The next section discusses the key findings previously described and policy implications, the limitations of the analysis and potential directions for future studies.

4. DISCUSSION AND CONCLUSIONS

The empirical analysis clarifies the household characteristics associated with online shopping attitude, which may aid policymakers in suggesting relevant policies like the enhancement of techniques for marketing that are intended to both retain existing online customers and draw in new ones.

Most of the studies in the existing literature include age as an important variable in the explanation of online shopping behaviour since computer skills are more easily used by younger individuals and younger individuals usually possess greater experience with the internet

(Harrison and Rainer, 1992; Trocchia and Janda 2000; Morris and Venkatesh, 2000; Hernández *et al.*, 2011). In this regard, the results of this present study support the premise that age is negatively associated with online shopping. However, it should be kept in mind that this study cannot distinguish the effect of age or the experience level with the internet on online shopping behaviour due to data unavailability. In this context, it can be argued that older users' lack of experience may lead to missing information relating to the advantages that the internet offers as a shopping instrument, thereby preventing their participation (Hernández *et al.*, 2011).

From the gender perspective, contrary to many studies in the existing literature (Saydan, 2008, Marangoz et al., 2019), this current study found that females prefer online shopping more than males. While it was emphasized in those studies mentioned above that males were more inclined to use computers, it was found in this study that females were more prone to do shopping in Turkey. In some studies, conducted for Turkey, no significant difference was found between males and females in terms of online shopping behaviour (İzgi and Şahin, 2013, Armağan and Turan, 2014).

The study's most notable conclusion is the correlation between household economic status and likelihood of internet shopping, which is positive. This result is consistent with the body of literature that maintains that demographic and socioeconomic factors have a major impact on attitudes regarding internet purchasing (Scott *et al*., 1981; Burke, 2002; Chintagunta, Chu, & Cebollada, 2012). Among all the explanatory variables, it is also found that the highest marginal effect in absolute value belongs to the positive relationship between the income levels of the household and the probability of online shopping for all transitions. Income can affect online shopping through many channels. First, higher income levels lead internet users to perceive lower implicit risks in undertaking online purchases and, hence, affect their online shopping behaviour in a positive way. Second, in an obvious way, higher income status means higher social status, which may lead to the greater knowledge regarding online shopping activities. Scott et al. (1981), for example, argued that high socioeconomic status (income) of the consumers means positive consumers' perceptions about online buying when compared to in-store shopping. Finally, the higher income level is directly associated with greater access to internet (Hernández *et al.,* 2011; Allard *et al*., 2009).

The ownership status of the household's home is one of the study's interesting findings. Accordingly, residential owners and residents of lodging are less likely to do shopping over the internet than tenants. Readers may find it interesting, but this is not surprising. The cross-tab results between residential owners and their age has shown that 73% of the residential owners are between 50 and 65 years old. Moreover, approximately 82% of household heads over the

age of 65 are residential owner. On the other hand, only 28% of young adults have their own residence. As recalled from the results, there is a negative association between age and online shopping habit. Since residential owners are mostly elderly people and tenants are mostly young adults, residential owners are less likely to shop online.

The results related to the occupational groups demonstrate parallelism with the education level to a greater extent. Household heads working in jobs that require a relatively higher level of education (financial and insurance activities, professional, scientific and technical activities, education etc.) are more likely to shop online.

Unlike the relevant literature, accessibility to shopping services and facilities were used as a variable thought to be effective on the online shopping behaviour. The findings state that as individuals get closer the shopping facilities, they are more likely to shop online. The reason of this can be considered that being close to shopping centers not only gives individuals the opportunity to feel and touch the products, but also offers the opportunity to compare products online.

It can be seen from Eurostat data that consumers' online shopping tendency in Turkey is considerably lower than in the EU countries. The increase in the tendency and frequency of shopping on the internet is very important for consumer welfare. The most important reason of this is that consumers can access more information about the goods and services. This will lead to an increase in competition. With the increasing competition conditions, consumers will be able to buy better quality goods at lower prices and this will lead to an increase in market efficiency. In this context, policies to increase the tendency to do shopping on the internet in Turkey are important in terms of increasing the level of social welfare. With the developments in information technologies, the prevalence of online shopping is of great importance for both business administrators and economists in terms of deepening the markets and increasing competition conditions.

Throughout the paper some empirical and conceptual limitations are emphasized. In the context of taking the results into consideration, it is crucial to highlight these limitations as well as a few other ones. First, the results of this study reveal the factors that are significant in determining the behaviour that consumers in Turkey have toward online shopping. To fully estimate the online shopping behaviour, it is necessary to take into consideration both demographic, socio-economic and perceptual factors. However, this study cannot include perceptual factors due to the lack of relevant data. Second, as is known, limitations are inherent in many empirical studies regarding the sample features. In this regard, the empirical analysis carried out in this study is at the household level rather than individual level due to the data

limitations. Third, longitudinal data should preferably be used to show how families' online purchasing behaviour has evolved over time and to analyse the factors affecting online shopping. However, the empirical study uses cross-section data, because the HBSs do not track the same households over time. Finally, this study cannot account for the differences in types of online shopping such as flight ticket, electronic and non-electronic goods and services because of the data limitations. According to this perspective, policy makers may find it useful to categorize online purchasing and determine which of the categories is most closely associated to the online shopping behaviour.

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Genişletilmiş Özet

Günümüz dünyasında bilgi ve bilgisayar teknolojilerindeki hızlı gelişmelerle birlikte ekonomik faaliyetlerin bileşenleri de değişmiş ve internet üzerinden alışverişin payı da artmıştır. Elektronik kanallarla mal ve hizmet alışverişi yeni bir pazar imkanı bulmuş ve bu pazar, giderek geleneksel fiziksel mağazaların yerini almıştır (Changchit ve ark. 2018). Öte yandan, dünya genelinde e-ticaret hacmi her geçen gün hızlı bir ivmeyle artmaktadır. Avrupa Birliği (AB) İstatistik Ofisi Eurostat'ın verilerine göre 2019 yılında Türkiye'de insanların % 30'u en az bir kez internetten alışveriş yaparken bu oran AB'de % 63 olarak gerçekleşmiştir. Bununla birlikte Türkiye, Avrupa'daki 38 ülke arasında 31'inci sırada yer almaktadır.

İnternet üzerinden ticaret hacmindeki söz konusu hızlı büyümeyi açıklayabilecek birçok neden vardır. Bunlardan belki de en önemlisi, fiziki bir piyasaya göre internet ortamında satış yapan satıcıların daha düşük fiyatlar sunabilmesidir. Çevrimiçi alışverişin parasal olmayan bir diğer avantajı da zaman ve ulaşım maliyetlerini azaltmasıdır. Tüketicilerin genel olarak internet alışverişini tercih etmelerinin en önemli nedenleri arasında ürün ve hizmetleri hem fiyat hem de kalite açısından daha kolay karşılaştırabilmeleri yer almaktadır. Bununla birlikte bilgiye daha kolay ulaşabilir olmaları ve diğer kullanıcıların deneyimlerinden faydalanabilmeleri de internet üzerinden alışverişin avantajları arasında yer almaktadır.

Öte yandan tüketicilerin internet üzerinden alışveriş yapmak istememelerinin de birçok nedeni olabilir. Bunlar arasında, tüketicilerin çevrimiçi alışverişi riskli olarak algılayabilmeleri ilk sıralarda yer almaktadır. Birçok araştırmada tüketicilerin internet üzerinden alışveriş yapmasının önündeki en önemli engel olarak güvenlik sorunu görülmektedir (Liao ve Cheung, 2001; Armağan ve Turan, 2014). Algılanan en önemli riskler arasında kredi kartı güvenliği ve kimlik bilgilerinin paylaşılması yer almaktadır (Saydan, 2008). Çevrimiçi alışverişi olumsuz etkileyebilecek bir diğer faktör de tüketicilerin çoğunlukla "dokun ve hisset" tarzı alışverişi tercih etmeleri ve alışverişi sosyal bir aktivite olarak görebilmeleridir.

Literatürde çevrimiçi alışveriş ile ilgili Türkiye için yapılmış birçok çalışma bulunmaktadır. Bu çalışmaların önemli bir bölümü çevrimiçi alışverişin demografik belirleyicilerini analiz etmiştir. Bu çalışmalardan ortaya çıkan ortak sonuçlardan biri, eğitim düzeyi ve gelir düzeyi arttıkça internet üzerinden alışveriş eğilimi ve hacminin artmasıdır (Armağan ve Turan; 2014, Marangoz vd.; 2019, Özgüven; 2011). Söz konusu çalışmalarda vurgulanan bir diğer unsur ise, genç ve genç yetişkinlerin internet üzerinden alışveriş yapma eğilimlerinin, daha yaşlı bireylere göre daha fazla olmasıdır.

Literatürde konuyla ilgili pek çok çalışma bulunmasına rağmen, yaşam tarzı yaklaşımı (*lifestyle approach*) çerçevesinde sosyo-ekonomik ve demografik değişkenler ile mikro verileri kullanan çalışmaların sayısının oldukça sınırlı olmasıdır. Yazarların bilgisi dahilinde bu çalışma, Türkiye'de tüketicilerin alışveriş davranışını ve internet üzerinden alışverişe yönelik tutumlarını ve davranışlarını etkileyen faktörleri yaşam tarzı yaklaşımı çerçevesinde incelemeye yönelik ilk çalışmadır. Bu amaçla, Türkiye İstatistik Kurumu (TÜİK) tarafından en son 2019 yılında yapılan ve tüm ülkeyi temsil eden Hanehalkı Bütçe Anketi (HBA) mikro veri seti kullanılmıştır. Çalışmada hanehalklarının internet üzerinden alışveriş tutumlarını ampirik olarak belirlemek için sıralı probit tahmin yöntemi kullanılmıştır.

Analizde hanehalklarının çevrimiçi alışveriş davranışlarının belirlenmesinde kullanılan bağımsız değişkenler sırasıyla; hane reisinin cinsiyeti, yaşı, eğitim durumu, hane geliri, hane tipi, hane mülkiyet yapısı, hanehalkı tasarruf davranışları, alışveriş merkezlerine ulaşabilirlik, hane reisinin çalıştığı iş kolu ve hanehalkının gazete ve dergi satın alma alışkanlıklarıdır.

Sıralı probit modelinin bulguları, cinsiyetin çevrimiçi alışveriş olasılığı açısından çok önemli bir faktör olduğunu göstermektedir. Erkeklerin reisi olduğu hanelerle karşılaştırıldığında, kadınların reisi olduğu hanelerin internetten alışveriş yapma olasılıkları daha yüksektir. Tüm açıklayıcı faktörler arasında en yüksek mutlak marjinal etkiye sahip değişken hanehalkı gelir düzeyidir. Buna göre hanehalkı gelirinin yüksek olması ile internetten alışveriş yapma olasılığı arasında anlamlı ve pozitif bir ilişki bulunmaktadır. Hane reisinin yaşı da çevrimiçi alışverişi etkileyen önemli faktörler arasında yer almaktadır. Buna göre hane reisinin yaşı arttıkça, internet üzerinden alışveriş yapma eğilimi ve olasılığı kategorik olarak azalmaktadır. Hane türü ile çevrimiçi alışveriş eğilimi arasındaki ilişki açısından tahmin sonuçları değerlendirildiğinde, tek kişilik haneler, en az bir çocuğu olan çiftler, en az bir çocuğu olan yalnız ebeveynler, geniş ailelerde oluşan hanelere göre daha fazla çevrimiçi alışveriş yapmaktadır.

Bu çalışmanın ilginç bulgularından biri de hane reisinin iş kolu koduyla ilgilidir. Tahmin sonuçlarına göre, hane reisi işsiz olan hanelerin, hane reisi diğer hizmet faaliyetlerinde çalışan hanelere kıyasla çevrimiçi alışveriş yapma olasılıklarının daha yüksek olduğunu göstermektedir. Bununla birlikte, imalat, inşaat ve gayrimenkul, toptan ve perakende ticaret, bilgi ve iletişim, sigorta ve mali faaliyetler, mesleki, bilimsel ve teknik faaliyetler, kamu yönetimi ve savunma, zorunlu sosyal güvenlik ve eğitim sektörlerinde çalışan hanehalkı reislerinin çevrimiçi alışveriş yapma olasılıklarının daha yüksek olduğu görülmüştür. İlgili literatürden kullanılan değişkenlerden farklı olarak alışveriş merkezlerine erişilebilirlik, çevrimiçi alışveriş davranışını etkileyen bir diğer değişken olarak analize dahil edilmiştir. Elde

edilen bulgular, bireylerin alışveriş merkezlerine yaklaştıkça çevrimiçi alışveriş yapma olasılıklarının daha yüksek olduğunu göstermektedir.

Eurostat verilerine göre Türkiye'de tüketicilerin çevrimiçi alışveriş eğiliminin AB ülkelerine göre oldukça düşük olduğu görülmektedir. İnternetten alışveriş eğiliminin ve sıklığının artması tüketici refahı açısından oldukça önemlidir. Bunun en önemli nedeni, tüketicilerin mal ve hizmetlerle ilgili daha fazla bilgiye kolaylıkla ulaşabilmesi ve karşılaştırma olanaklarına sahip olmasıdır. Bu durum rekabetin artmasına yol açacak ve artan rekabet koşullarıyla birlikte tüketiciler daha kaliteli ürünleri daha düşük fiyatlarla satın alabilecektir. Bu da bir bütün olarak piyasa etkinliğinin artmasına yol açacaktır. Bu bağlamda Türkiye'de internet üzerinden alışveriş yapma eğilimini artırmaya yönelik politikalar toplumsal refah düzeyinin artırılması açısından önem taşımaktadır. Bilgi teknolojilerindeki gelişmelerle birlikte çevrimiçi alışverişin yaygınlaşması hem işletme yöneticileri hem de ekonomistler açısından piyasaların derinleşmesi ve rekabet koşullarının artması açısından büyük önem arz etmektedir.