IJCEAS

International Journal of Contemporary Economics and Administrative Sciences
ISSN: 1925 – 4423
Volume: XII, Issue: 1, Year: 2022, pp. 191-204

Determinants of Credit Card Use: Evidence from Cross-Sectional Data in Turkey

Kübranur ÇEBİ KARAASLAN [1]
Hasan Hüseyin TEKMANLI [2]

Received: 15.01.2022, Accepted: 29.06.2022
DOI Number: 10.5281/zenodo.6850755

Abstract

It is important to make payments contactless in order to comply with hygiene rules, especially when shopping under the new normal principles. It is expected that this will increase credit card use. Based on this, the aim of the study is to determine the demographic, economic and environmental factors affecting the use of credit cards. In this study, the data obtained from the Turkish Statistical Institute were used. Binary logistic regression and binary probit regression analyzes were used under discrete choice analysis to identify the factors affecting the household credit card use status. The analysis results showed that the factors such as gender, marital status, educational background, age, household size, employment status, income, expenditure, financial assets, saving, online shopping, and questionnaire year were effective on the credit card use attitudes of households. Determining the effects and effect sizes of these has contributed to explain the attitude of credit card use and has guided decision-makers and policymakers to transform the use of credit cards for contributing to the economy.

Key words: Credit Card Use, Consumer Behavior, Survey Data, Binary Logistic Regression, Turkey

JEL Code: D12, C25, D14

[1] Assist Prof., Department of Econometrics, Faculty of Economics and Administrative Sciences, Erzurum Technical University, Erzurum, Turkey (Corresponding Author), kubranur.cebi@erzurum.edu.tr, http://orcid.org/0000-0001-9288-017X
[2] Research Assist., Department of Econometrics, Faculty of Economics and Administrative Sciences, Ataturk University, Erzurum, Turkey, hasan.tekmanlı@atauni.edu.tr, http://orcid.org/0000-0003-3687-6090

1. Introduction

Recent technological developments combined with increasing global competition have increased the number of purchasing tools. Today, in addition to cash money, credit cards, debit cards, smart cards, electronic cash cards, online fund transfers, leasing and even counter trade provide customers with the means to buy or use any product they wish (Foscht, Maloles, Swoboda, & Chia, 2010). Credit cards are unquestionably the most popular of these payment methods.

A credit card is both a payment instrument and a convenient source of loan (He, Zhu, Zhang, & He, 2016). In addition to their routine shopping, consumers use credit cards as an easier payment method instead of cash or checks for transactions that may exceed their budget (e.g. internet shopping) (Durkin, 2000). All major credit card issuers more or less have a portfolio of three types of credit card users: inactive cardholders, active cardholders not paying any interest, and active cardholders paying interest (Hamilton & Khan, 2001). Credit cards, as a short-term borrowing instrument, have become a very popular payment method in recent years, thanks to the "buy now, pay later" feature. Credit card debt differs from other consumer debts in that it is flexible, unguaranteed and noncommitted. Thus, no guarantee is required to ensure the payment of credit card debt. For this reason, credit card debtors are more likely to default than committed borrowings such as housing loans and vehicle loans. The fact that the organizations that issued the credit card are unable to provide any assurance in such a circumstance increases the value of having a credit card, but high interest rates and service costs make credit card use more costly (Ismail, Amin, Shayeri, & Hashim, 2014). Consumers use credit cards as a financing method and suffer from interest payment over unpaid balance (Lee & Kwon, 2002). In this case, the credit card serves as a substitute for bank loans and other forms of financing (Hicks, 2005).

Although the credit card was first used in developed countries, it has been rapidly widespread in developing countries over time. Due to the rapid increase in the use of credit cards, credit card debt has grown incrementally in both developed and developing countries (Scott, 2007). At the end of 2009, the total credit card debt in the United States of America was around 91.5 billion dollars. Credit card debt climbed to approximately 14% of GDP in South Korea in 2009. Around 7 million people in Taiwan, around 6% of the population, have become "credit card slaves" (Wang, Lu, & Malhotra, 2011). The latest statistics on credit card use in the world were published in 2017. According to these statistics, Canada is the world leader in credit card use, accounting for 82.6% of the population. While Israel comes in second place with 75%, Norway comes in third place with 70.5%. On the other hand, Turkey ranks twenty-seventh with a rate of 41.6% (Statista, 2021).

In Turkey, the first credit cards were developed by Diner’s Club in 1968. They became a symbol of prestige as they were effective in several organizations providing service to elites (Schoell, 2010). With the development of tourism, American Express entered the Turkish credit card market in the early 1970s. This was followed by Eurocard, Mastercard and Access in 1984 as well as Visa in 1975.

Later on, 13 banks founded the Interbank Card Center (ICC) in 1990 to facilitate the solution of transactions involving multiple banks (Çokgezen & Kuran, 2015). Until the 1990s, the Turkish banking system was primarily focused on funding government-sponsored projects and selling government bonds, but structural reforms and relative stability led to the emergence of private banking and a boom in credit card use in the 1990s (Özkan, 2014). As of the late 1990s, Turkey's credit card markets underwent an unexpected expansion. While the number of credit cards exceeded half a million in the late 1990s, it increased to 15,71 million in 2002, which continued to grow by exceeding 62.4 million in 2017, ranking second in Europe behind England (Minibas-Poussard, Bingol, & Roland-Levy, 2018). The most recent data demonstrates that this figure has reached 79.8 million as of the second quarter of 2021. In addition, as of the second period of 2021, the transaction amount for domestic use of domestic credit cards has been determined to be TL 640,694.79 million, the transaction sum regarding use of domestic credit cards abroad has been TL 13,418.74 million, and the transaction amount for domestic use of foreign credit cards has been TL 25,096.26 million (BKM, 2021). This increase is based on the fact that people have become more familiar with technology, recognized facilities, and so on. Due to the COVID-19 pandemic, which broke out at the end of 2019, lockdowns and hygiene awareness campaigns have significantly increased the use of contactless payments. The most recent research on this issue suggests that card transactions constituted approximately 40% of personal consumption expenditure in Turkey in 2020, thereby making card spending dynamics a relevant indicator for total demand and providing real-time information on consumption trends (Kantur & Özcan, 2021). This demonstrates that credit card use has been recently adopted in Turkey. Therefore, it is of importance to carry out studies on credit card use. In particular, it is important to examine the socio-demographic and economic factors that affect the use of credit cards, as they constitute a source of motivation for the study. Examining secondary socio-economic and demographic factors in addition to the common variables of age, gender, income, etc. in the literature especially regarding the determinants, this study aims to offer new perspectives with new variables for the literature. In addition to these factors, the analysis of household factors and cross-sectional inferences for more than one year adds original value to the study.

2. Data and Methodology

Data

In this study, the Household Budget Survey data published by the Turkish Statistical Institute was used. Household Budget Survey is conducted annually. This survey is applied to approximately 12000 households annually, with an average of 1000 households per month. The final data set used for this study was obtained by combining all of the survey data published from 2015 to 2019. In data collection, the stratified two-stage cluster sampling method was utilized. Individuals aged 15 and above were included in the study. A total of 59102 individuals participated in

the questionnaire. The sample size of the study was designed to make an estimate based on Turkey (Turkish Statistical Institute, 2021).

Variables

The dependent variable is credit card use by the household. Categories were assigned according to the yes and no options for the question "Whether there is anyone using a credit card in the household".

The demographic, economic and environmental factors of the household head, which may be effective in the decision of the households to use credit cards, were specified as independent variables. On the other hand, the household head's gender, educational background, marital status, age, and household size variables are demographic factors.

Employment status of the household head, annual household disposable income (household income level divided into quartiles), household expenditure value, second house ownership, automobile ownership, whether there is someone in the household with life insurance, credit card ownership, savings, whether having the habit of shopping online, and questionnaire year are all variables related to economic and environmental indicators.

Research Method

In this study, frequency analyzes were performed according to the credit card use status of the households participating in the research. Chi-square independence tests were carried out to investigate the relationship between credit card use status and independent variables. Later on, the factors affecting credit card use and the sizes of their effects were specified by utilizing binary logistic regression and binary probit regression analysis. Binary logistic regression and binary probit regression models are discrete choice models that are used to estimate the probability of choosing an alternative under the assumption that decision makers will maximize utility among finite alternatives (Çebi Karaaslan, 2021).

3. Results

Descriptive Statistics and Chi-Squared Test Results

The demographic, economic and environmental factors that may affect the use of credit cards by households are shown in Table 1.

IJCEAS

International Journal of Contemporary Economics and Administrative Sciences
ISSN: 1925 – 4423
Volume: XII, Issue: 1, Year: 2022, pp. 191-204

Table 1. Frequency and percentages of demographic, economic and environmental indicators by credit card use status

Variables		Credit Card Use Status		f (%)	P
		No	Yes		
Demographic indicators					
Gender					
	Male	23337(79.4)	26269(88.4)	49606(83.9)	0.000***
	Female	6060(20.6)	3436(11.6)	9496(16.1)	
Age					
	15-24	348(1.2)	355(1.2)	703(1.2)	0.000***
	25-34	3060(10.4)	4750(16)	7810(13.2)	
	35-44	5704(19.4)	8109(27.3)	13813(23.3)	
	45-54	6128(20.8)	7633(25.7)	13761(23.3)	
	55-64	5747(19.5)	5757(19.4)	11504(19.5)	
	65+	8410(28.6)	3101(10.4)	11511(19.5)	
Educational Background					
	No School Graduate-Primary school	11998(40.8)	4733(15.9)	16731(28.3)	0.000***
	Secondary School	10899(37.1)	7807(26.3)	18706(31.7)	
	High school	3398(11.6)	5078(17.1)	8476(14.3)	
	University	3102(10.6)	12087(40.7)	15189(25.7)	
Marital Status					
	Never Married	861(2.9)	1436(4.8)	2297(3.9)	0.000***
	Married	22763(77.4)	25590(86.1)	48353(81.8)	
	Divorced-Widowed	5773(19.6)	2679(9)	8452(14.3)	
Household Size					
	1 Individual	3836(13)	1767(5.9)	5603(9.5)	0.000***
	2 Individuals	8109(27.6)	6158(20.7)	14267(24.1)	
	3 Individuals	5083(17.3)	7935(26.7)	13018(22)	
	4 Individuals	4967(16.9)	8010(27)	12977(22)	
	5 Individuals	3213(10.9)	3543(11.9)	6756(11.4)	
	6 Individuals and More	4189(14.2)	2292(7.7)	6481(11)	
Employment Status					
	Working	16742(57)	21891(73.7)	38633(65.4)	0.000***
	Not Working	12655(43)	7814(26.3)	20469(34.6)	
Economic indicators					
Income Level					
	1st Level (lowest)	12146(41.3)	2628(8.8)	14774(25)	0.000***
	2nd Level	8624(29.3)	6152(20.7)	14776(25)	
	3rd Level	5745(19.5)	9032(30.4)	14777(25)	
	4th Level (highest)	2882(9.8)	11893(40)	14775(25)	
Second House Ownership					
	Yes	1883(6.4)	3104(10.4)	4987(8.4)	0.000***
	No	27514(93.6)	26601(89.6)	54115(91.9)	
Car Ownership					
	Yes	7817(26.6)	17366(58.5)	25183(42.6)	0.000***

	No	21580(73.4)	12339(41.5)	33919(57.4)	
Saving Status					
	Yes	6995(23.8)	10882(36.6)	17877(30.2)	0.000***
	No	22402(76.2)	18823(63.4)	41225(69.8)	
Shopping Online Status					
	Yes	499(1.7)	4874(16.4)	5373(9.1)	0.000***
	No	28898(98.3)	24831(83.6)	53729(90.9)	
Year					
	2015	5862(19.9)	5629(18.9)	11491(19.4)	0.000***
	2016	6015(20.5)	6081(20.5)	12096(20.5)	
	2017	6081(20.7)	6085(20.5)	12166(20.6)	
	2018	5893(20)	5935(20)	11828(20)	
	2019	5546(18.9)	5975(20.1)	11521(19.5)	

***p < .01

It is seen that the household head is male in 83.9% of the households, 23.3% of them are between the ages of 35 and 44. Furthermore, 24.1% of the households have two people, 8.4% of them have a second house, 42.6% have a car, 30.2% make saving and 9.1% shop online, respectively.

According to the results of the chi-square independence test presented in Table 1, a significant relationship was found between households' credit card use status and the factors related to demographic, economic and environmental indicators.

Model Estimation

In Table 2, the results of the models estimated for the factors that may be effective on the households' credit card use status and the variance inflation factors (vif) values are demonstrated. A variance inflation factor higher than 10 indicates a significant degree of multicollinearity (Alkan & Tekmanlı, 2021). When variance inflation factors were considered, no evidence of multicollinearity was found in the independent variables included in the study.

Table 2. Results of models estimated for factors effective in households' credit card use

Variables	**Logit Model**			**Probit Model**			
	β	**Std.Err.**	**p**	**β**	**Std.Err.**	**p**	**Vif**
Demographic indicators							
Gender (reference category: male)							
Female	-0.156***	0.041	0.000	-0.096***	0.024	0.000	2.10
Age (reference category: 65 years and older)							
15-24	0.286***	0.100	0.004	0.178***	0.059	0.002	1.26
25-34	0.648***	0.046	0.000	0.386***	0.027	0.000	2.37
35-44	0.755***	0.041	0.000	0.448***	0.024	0.000	2.96
45-54	0.596***	0.037	0.000	0.359***	0.022	0.000	2.46
55-64	0.530***	0.034	0.000	0.315***	0.020	0.000	1.82
Educational Background (reference category: no school graduation-primary school)							
Secondary School	0.580***	0.031	0.000	0.345***	0.018	0.000	2.06
High school	0.951***	0.035	0.000	0.571***	0.021	0.000	1.63

	College Undergraduate-Graduate	1.502***	0.038	0.000	0.897***	0.022	0.000	2.63
Marital Status (reference category: married)								
	Never Married	0.179***	0.066	0.007	0.109***	0.038	0.004	1.50
	Divorced-Widowed	0.087*	0.046	0.059	0.053*	0.027	0.050	2.57
Household Size (reference category: 6 individuals or more)								
	1 Individual	0.518***	0.060	0.000	0.297***	0.035	0.000	2.76
	2 Individuals	0.674***	0.039	0.000	0.394***	0.023	0.000	2.85
	3 Individuals	0.789***	0.037	0.000	0.465***	0.022	0.000	2.50
	4 Individuals	0.756***	0.037	0.000	0.445***	0.022	0.000	2.43
	5 Individuals	0.543***	0.041	0.000	0.322***	0.024	0.000	1.83
Economic and environmental indicators								
Employment Status (reference category: not working)								
	Working	-0.141***	0.027	0.000	-0.083**	0.016	0.000	1.63
Income Level (reference category: 1st level (lowest))								
	2nd Level	0.805***	0.030	0.000	0.491**	0.017	0.000	1.65
	3rd Level	1.336***	0.032	0.000	0.827**	0.019	0.000	1.90
	4th Level (highest)	1.829***	0.040	0.000	1.128**	0.023	0.000	2.74
	Household Expenditure Value	0.109***	0.006	0.000	0.0493***	0.003	0.000	1.58
Second House Ownership (reference category: no)								
	Yes	0.057	0.038	0.135	0.042*	0.022	0.057	1.07
Car Ownership (reference category: no)								
	Yes	0.619***	0.022	0.000	0.380***	0.013	0.000	1.29
Saving Status (reference category: no)								
	Yes	-0.211***	0.024	0.000	-0.128***	0.014	0.000	1.20
Online Shopping Status (reference category: no)								
	Yes	1.244***	0.053	0.000	0.674***	0.028	0.000	1.23
Year (reference category: 2015)								
	2016	0.003	0.032	0.936	0.007	0.019	0.721	1.64
	2017	-0.089***	0.032	0.005	-0.042**	0.019	0.023	1.65
	2018	0.301***	0.036	0.000	0.191***	0.021	0.000	1.97
	2019	0.323***	0.037	0.000	0.210***	0.022	0.000	1.98
Constant Term		-3.475***	0.055	0.000	-2.052***	0.031	0.000	

***p < .01; **p < .05; *p < .10

Binary logistic and binary probit regression models were utilized to specify the factors effective in the credit card use attitudes of the households in the study. The models were found to be statistically significant (P<0.0001). The variables of household head's gender, age (15-24, 25-34, 35-44, 45-54, 55-64), education background (secondary school, high school, college, undergraduate-graduate), marital status (never married, divorced-widowed) and employment were determined to be significant. In addition, the variables of household size, household income level (2nd income level; 3rd income level, 4th income level), household expenditure value, second house ownership, automobile ownership, saving status, online shopping status and questionnaire year (2017, 2018, 2019) were also found to be significant.

After the model comparisons demonstrated in Table 3, the binary logistic regression model has a higher Pseudo R^2 and log-likelihood value, and a lower AIC and BIC value between the two models. Therefore, we can suggest that the binary logistic regression model is fitter.

Table 3. Comparison of binary regression models

Criteria	LOGIT	PROBIT
Pseudo R^2	0.2722	0.2718
Cox-Snell/M	0.419	0.314
AIC	59686.652	59725.186
BIC	59956.263	59994.797
Log-likelihood	-29813.326	-29832.593
Classification success	0.748	0.748
P-value	0.000	0.000
N	59102	59102
LOGIT: Binary logistic regression; PROBIT: Binary probit regression		

Average Direct Elasticity

In Table 4, the marginal effects (ME) of the factors effective in the credit card use status of households are shown. Marginal effect interpretations will be made by the binary logistic regression model.

Table 4. Marginal effects of demographic, economic and environmental indicators affecting credit card use

Variables	Logit Model			Probit Model		
	ME	Std.Err.	P	ME	Std.Err.	P
Demographic indicators						
Gender (reference category: male)						
Female	-0.079***	0.021	0.000	-0.086**	0.022	0.000
Age (reference category: 65 years and older)						
15-24	0.160***	0.054	0.003	0.179***	0.057	0.002
25-34	0.344***	0.024	0.000	0.362***	0.025	0.000
35-44	0.393***	0.022	0.000	0.412***	0.023	0.000
45-54	0.319***	0.021	0.000	0.340***	0.021	0.000
55-64	0.286***	0.019	0.000	0.303***	0.020	0.000
Educational Background (reference category: no school graduation-primary school)						
Secondary School	0.331***	0.018	0.000	0.346***	0.019	0.000
High School	0.510***	0.019	0.000	0.532***	0.020	0.000
College. Undergraduate-Graduate	0.729***	0.019	0.000	0.750***	0.019	0.000
Marital Status (reference category: married)						
Never Married	0.087***	0.031	0.005	0.093***	0.032	0.003
Divorced-Widowed	0.043**	0.023	0.056	0.046**	0.023	0.047
Household Size (reference category: 6 individuals or more)						
1 Individual	0.288***	0.032	0.000	0.299***	0.034	0.000
2 Individuals	0.366***	0.022	0.000	0.384***	0.024	0.000
3 Individuals	0.421***	0.021	0.000	0.444***	0.022	0.000
4 Individuals	0.406***	0.021	0.000	0.428***	0.022	0.000
5 Individuals	0.301***	0.023	0.000	0.321***	0.025	0.000
Economic and environmental indicators						

IJCEAS

International Journal of Contemporary Economics and Administrative Sciences
ISSN: 1925 – 4423
Volume: XII, Issue: 1, Year: 2022, pp. 191-204

Employment Status (reference category: not working)							
	Working	-0.070***	0.013	0.000	-0.073***	0.014	0.000
Income Level (reference category: 1st level (lowest))							
	2nd Level	0.490***	0.019	0.000	0.526***	0.020	0.000
	3rd Level	0.745***	0.019	0.000	0.796***	0.020	0.000
	4th Level (highest)	0.933***	0.021	0.000	0.984***	0.021	0.000
	Household Expenditure Value	0.054***	0.003	0.000	0.043***	0.002	0.000
Second House Ownership (reference category: no)							
	Yes	0.028	0.019	0.131	0.037*	0.019	0.054
Car Ownership (reference category: no)							
	Yes	0.302***	0.011	0.000	0.322***	0.011	0.000
Saving Status (reference category: no)							
	Yes	-0.107***	0.012	0.000	-0.115***	0.013	0.000
Online Shopping Status (reference category: no)							
	Yes	0.502***	0.017	0.000	0.480***	0.016	0.000
Year (reference category: 2015)							
	2016	0.001	0.016	0.936	0.006	0.017	0.721
	2017	-0.046***	0.017	0.005	-0.040**	0.018	0.023
	2018	0.147***	0.018	0.000	0.166***	0.018	0.000
	2019	0.157***	0.018	0.000	0.181***	0.019	0.000

***p < .01; **p < .05; *p < .10

The binary logistic regression model provided in Table 4 shows that the likelihood of a female head of household using a credit card is 7.9% lower than that of a male head of household. The fact that the age of the household head is within 15-24, 25-34, 35-44, 45-54 and 55-64 increased the likelihood of using a credit card compared to the reference group by 16%, 34.4%, 39.3%, 31.9% and 28.6%, respectively.
The fact that the household head has a secondary school, high school, college-undergraduate-graduate degree increased the likelihood of using a credit card by 33.1%, 51% and 72.9%, respectively, compared to the reference group. The likelihood of the household heads, who are never married or divorced-widowed, using a credit card is 8.7%, 4% higher than married ones.

The fact that the household consists of 1 individual, 2 individuals, 3 individuals, 4 individuals and 5 individuals increased the likelihood of using a credit card by 28.8%, 36.6%, 42.1%, 40.6% and 30.1%, respectively, compared to the reference group. Regarding economic and environmental indicators, the likelihood of those working in a job using a credit card is 7% less than those not working in a job. The likelihood of using a credit card increased as the income level of the household and the expenditure value raised. An increase of 1000 TL in the household expenditure value increases the probability of using a credit card by 5.4%. Those who own a car are 30.2% more likely than those who do not own a car to use a credit card. Those saving are 10.7% less likely to use a credit card than those who do not. The likelihood of those who shop online using a credit card is 50.2% higher than those who do not. While the likelihood of those who participated in the questionnaire in 2017 using a credit card was 4.6% less than those

participated in 2015, the likelihood of using a credit card in 2018 and 2019 was 14.7% and 15.7% higher, respectively.

4. Discussion

In this study, the effects of factors related to demographic, economic and environmental indicators affecting households' attitudes towards using credit cards in Turkey have been determined. These effects will help to explain why people choose to pay using a credit card. As a result, study results will serve as a guide for decision-makers and policymakers in this regard.

In recent years, both the number and value of credit card transactions have steadily increased (Interbank Card Center [ICC], 2021). Cash payment has been phased out in favor of contactless payment in order to adapt to new life principles imposed by the COVID-19 pandemic. In this case, the tendency to use credit cards is expected to increase. This is the source of the motivation for this study.

This study concludes that females are less likely to use credit cards than males. Similarly, in a study conducted in Turkey, it has been determined that females are less likely to have a credit card and spend with it than males (Cankaya, Ucal, & O'Neil, 2011). A study carried out in India urges that the likelihood of males to have a credit card is higher than females (Khare, Khare, & Singh, 2012). In addition, another study conducted in China suggests that females use less revolving credit than males (Wang et al., 2011). This may be based on the fact that females are more cautious in taking a financial decision than males (Baek & Hong, 2004) and have low financial confidence and low risk tolerance (Carpenter & Moore, 2008). Due to the numerous risks associated with credit card use, such as fraud, penalty, and debt, young-adult females are less likely to use a credit card (Sari & Suyasa, 2017).

While the age group with the highest tendency to use credit cards is middle age, the group with the lowest rate is the elderly. In this regard, a study conducted on American households argues that the variable of age has a curvilinear effect on credit card use; the age of 37 is the peak area, and the likelihood of using a credit card is higher than other age groups (Kim & DeVaney, 2001). In addition, another study carried out in the USA concludes that credit card use and credit card borrowing increase in the thirties (Ekici & Dunn, 2010). A study on Turkish households suggests that the likelihood of using a credit card decreases as age increases (Çebi Karaaslan, 2022a). Additionally, a study of Western Chinese households indicates that the middle age group is more likely than other age groups to use a credit card. This may be caused by the fact that young people have a greater desire to recognize and try innovations or have more financial difficulties than older people (He et al., 2016).

As the level of education has increased, so has the likelihood of using a credit card. A study conducted in Turkey shows that an increase in education results in an increase in credit card use (Kaynak & Harcar, 2001). Similarly, another study

conducted in Sri Lanka argues that increasing education level raises knowledge of credit card systems as well as credit card use (Wickramasinghe & Gurugamage, 2012). The increase in education level may be directly associated with income. This may also be reflected in credit card use.

The likelihood of the household heads, who are never married or divorced-widowed, using a credit card is higher than married ones. Contrary to this, a study conducted in Italy suggests that the household heads, who are not married or divorced, are more likely to use a credit card than those who are married (Amendola, Pellecchia, & Sensini, 2016). Furthermore, another study carried out in China found that the likelihood of unmarried people using a credit card is lower than married ones (Gan et al., 2016).

Those working in a job are less likely to use a credit card than those who do not. Contrary to this, a study conducted on university students in the USA suggests that employment increases the use of credit cards and irresponsibility (Fogel & Schneider, 2011).

As the income level of the household increases, the likelihood of using a credit card also increases. Similarly, a study conducted in Malaysia argues that the likelihood of using a credit card, incurring credit card debt, and repaying credit card debt is greater in the high-income group (Ming-Yen Teoh, Chong, & Mid Yong, 2013). Increased income is likely to have an effect on a customer's lifestyle and demand for "better things". Credit cards symbolize global connectivity, a luxurious lifestyle and a sense of achievement. Accordingly, the positive effect of an increase in income on the use of credit card is an expected result (Khare et al., 2012). Moreover, the findings of the study suggest that those with a car and second house are more likely to use a credit card than those who do not. This conclusion is unsurprising if car and second-home ownership are regarded as indicators of wealth.

Those who save are less likely to use a credit card than those who do not save. This is associated with paving the way for unconscious use of credit cards.

The likelihood of households shopping online using a credit card is higher than those who do not. In China, a study demonstrated that computer use and internet access have a significant effect on online shopping and credit card use (Clemes, Gan, & Zhang, 2014). Similarly, a study indicates that households that use credit cards are more likely to engage in online shopping than those who do not use it (Çebi Karaaslan, 2022b). This is an expected outcome. Credit cards are now accepted practically everywhere and their use has expanded dramatically as a result of technological advancements, particularly computers and the internet. Consumers can purchase for goods and services while at home using credit cards and the internet (Basnet & Donou-Adonsou, 2016).

According to model estimations, economic indicators, particularly age, education, attitude toward online shopping, and income, all have a significant effect on credit card use. The study's findings provide valuable insight into the credit card user profile for banks, employers, and decision-makers.

REFERENCES

Alkan, Ö., & Tekmanlı, H. H. (2021). Determination of the factors affecting sexual violence against women in Turkey: a population-based analysis. *BMC Women's Health, 21*(1), 188. doi:10.1186/s12905-021-01333-1

Amendola, A., Pellecchia, A., & Sensini, L. (2016). Factors Driving the Credit Card Ownership in Italy. *International Business Research, 9*(6), 131-142.

Baek, E., & Hong, G. S. (2004). Effects of family life-cycle stages on consumer debts. *Journal of Family and Economic Issues, 25*(3), 359-385. doi:10.1023/B:JEEI.0000039946.59422.5f

Basnet, H. C., & Donou-Adonsou, F. (2016). Internet, consumer spending, and credit card balance: Evidence from US consumers. *Review of Financial Economics, 30*, 11-22. doi:https://doi.org/10.1016/j.rfe.2016.01.002

BKM. (2021). Reports. Retrieved from https://bkm.com.tr/en/reports-and-publications/reports-2/

Cankaya, S., Ucal, M. Ş., & O'Neil, M. (2011). Effects of gender on credit card usage among university students in Turkey. *African Journal of Business Management, 5*(22), 9023-9030.

Carpenter, J. M., & Moore, M. (2008). Gender and Credıt Behavıors Among College Students: Implıcatıons For Consumer Educators. *Journal of Family & Consumer Sciences Education, 26*(1).

Clemes, M. D., Gan, C., & Zhang, J. (2014). An empirical analysis of online shopping adoption in Beijing, China. *Journal of Retailing and Consumer Services, 21*(3), 364-375. doi:https://doi.org/10.1016/j.jretconser.2013.08.003

Çebi Karaaslan, K. (2021). Analysis of factors affecting individuals' sources of happiness with multinomial logistic model. *Journal of Measurement and Evaluation in Education and Psychology, 12*(3), 286-302. doi:https://doi.org/ 10.21031/epod.925631

Çebi Karaaslan, K. (2022a). Analysis of the factors affecting credit card use and online shopping attitudes of households in Turkey with the Bivariate Probit Model, International *Journal of Electronic Finance,* doi*:* https://doi.org/ 10.1504/IJEF.2022.10045214

Çebi Karaaslan, K. (2022b), "Determinants of online shopping attitudes of households in Turkey", *Journal of Modelling in Management*, *17*(1), 119-133. https://doi.org/10.1108/JM2-04-2021-0101

Çokgezen, M., & Kuran, T. (2015). Between consumer demand and Islamic law: The evolution of Islamic credit cards in Turkey. *Journal of Comparative Economics, 43*(4), 862-882. doi:https://doi.org/10.1016/j.jce.2015.07.005

Durkin, T. (2000). Credit Cards: Use and Consumer Attitudes, 1970-2000. *Federal Reserve Bulletin, 86*, 623-634. doi:10.17016/bulletin.2000.86-9

Ekici, T., & Dunn, L. (2010). Credit card debt and consumption: evidence from household-level data. *Applied Economics, 42*(4), 455-462. doi:10.1080/00036840801964526

Fogel, J., & Schneider, M. (2011). Credit card use: disposable income and employment status. *Young Consumers, 12*(1), 5-14. doi:10.1108/17473611111114740

Foscht, T., Maloles, C., Swoboda, B., & Chia, S. L. (2010). Debit and credit card usage and satisfaction. *International Journal of Bank Marketing, 28*(2), 150-165. doi:10.1108/02652321011018332

Gan, C. E. C., Cohen, D. A., Hu, B., Tran, M. C., Dong, W., & Wang, A. (2016). The relationship between credit card attributes and the demographic characteristics of card users in China. *International Journal of Bank Marketing, 34*(7), 966-984. doi:10.1108/IJBM-09-2015-0133

Hamilton, R., & Khan, M. (2001). Revolving Credit Card Holders: Who Are They and How Can They Be Identified? *The Service Industries Journal, 21*(3), 37-48. doi:10.1080/714005031

He, C., Zhu, B., Zhang, M., & He, X. (2016). The Key Factors of Outstanding Credit Balances among Revolvers: A Case Study of a Bank in China. *Procedia Computer Science, 91*, 341-350. doi:https://doi.org/10.1016/j.procs.2016.07.091

Hicks, K. E. (2005). Practical use of credit cards for ODs: does convenience outweigh the risks? *Optometry, 76*(11), 675-677. doi:10.1016/j.optm.2005.09.008

Ismail, S., Amin, H., Shayeri, S. F., & Hashim, N. (2014). Determinants of Attitude towards Credit Card Usage. *Jurnal Pengurusan (UKM Journal of Management), 41*. Retrieved from https://ejournal.ukm.my/pengurusan/article/view/7774/3111

Kantur, Z., & Özcan, G. (2021). What pandemic inflation tells: Old habits die hard. *Economics Letters, 204*, 109907. doi:https://doi.org/10.1016/j.econlet.2021.109907

Kaynak, E., & Harcar, T. (2001). Consumers' attitudes and intentions towards credit card usage in an advanced developing country. *Journal of Financial Services Marketing, 6*(1), 24-39. doi:10.1057/palgrave.fsm.4770038

Khare, A., Khare, A., & Singh, S. (2012). Factors affecting credit card use in India. *Asia Pacific Journal of Marketing and Logistics, 24*(2), 236-256. doi:10.1108/13555851211218048

Kim, H., & DeVaney, S. A. (2001). The determinants of outstanding balances among credit card revolvers. *Financial Counseling and Planning, 12*(1), 67-77.

Lee, J., & Kwon, K.-N. (2002). Consumers' Use of Credit Cards: Store Credit Card Usage as an Alternative Payment and Financing Medium. *Journal of Consumer Affairs, 36*(2), 239-262. doi:https://doi.org/10.1111/j.1745-6606.2002.tb00432.x

Ming-Yen Teoh, W., Chong, S. C., & Mid Yong, S. (2013). Exploring the factors influencing credit card spending behavior among Malaysians. *International*

Journal of Bank Marketing, 31(6), 481-500. doi:10.1108/IJBM-04-2013-0037

Minibas-Poussard, J., Bingol, H. B., & Roland-Levy, C. (2018). Behavioral control or income? An analysis of saving attitudes and behavior, credit card use and buying on installment. *European Review of Applied Psychology, 68*(6), 205-214. doi:https://doi.org/10.1016/j.erap.2018.10.003

Özkan, C. (2014). Türkiye'de kredi kartı kullanıcı profili ve davranışı analizi. *Uzmanlık Yeterlilik Tezi, Türkiye Cumhuriyet Merkez Bankası Bankacılık ve Finansal Kuruluşlar Genel Müdürlüğü, Ankara*.

Sari, M. P., & Suyasa, P. T. (2017). Materialistic value and credit card usage as predictors of compulsive clothing buying among young adult women. *Makara Human Behavior Studies in Asia, 21*(2), 83-91. doi:https://doi.org/10.7454/mssh.v21i2.3503

Schoell, C. (2010). Turkey's credit card industry: Swipe wisely. *Perspectives on Business and Economics in Turkey: Bridging Two Worlds. Martindale Center for the Study of Private Enterprise, Lehigh University, Bethlehem, PA*, 33-43.

Scott, R. H. (2007). Credit Card Use and Abuse: A Veblen ian Analysis. *Journal of Economic Issues, 41*(2), 567-574. doi:10.1080/00213624.2007.11507046

Statista. (2021). Share of individuals with credit cards in 144 different countries in the world as of 2017. Retrieved from https://www.statista.com/statistics/675371/ownership-of-credit-cards-globally-by-country/

Wang, L., Lu, W., & Malhotra, N. K. (2011). Demographics, attitude, personality and credit card features correlate with credit card debt: A view from China. *Journal of Economic Psychology, 32*(1), 179-193. doi:https://doi.org/10.1016/j.joep.2010.11.006

Wickramasinghe, V., & Gurugamage, A. (2012). Effects of social demographic attributes, knowledge about credit cards and perceived lifestyle outcomes on credit card usage. *International Journal of Consumer Studies, 36*(1), 80-89. doi:https://doi.org/10.1111/j.1470-6431.2010.00993.x