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Original Paper

Card or Cash? An Econometrical and Behavioral Analysis in Greece during Covid-19

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Abstract

Purpose: *This study aims to investigate Greek bank card holders' behavior and verify the use of this means of payment against cash in their various transactions.*

Methodology: *A variety of econometric and behavioral models were used to capture those factors that can affect satisfaction and attitude towards bank cards and behavioral intention to continue using them, in conjunction with the choice of using this payment method over cash, during the Covid-19 period in Greece.*

By performing Factor Analysis, Multiple Logistic Regression, Structural Equation, and Multiple Linear Regressions Models, it was proved that factors such as transaction security, acceptance of the payment, ease of use, and the characteristics of bank cards could be influencing the use of such banking products. Exceptional were the findings regarding the influence of the type of good, the sector, and transaction size, on the choice of payment method. In addition, individuals' perceptions about the prestige and benefits offered by bank cards against cash, in combination with elements of an individual's personality, such as materialism and compulsive buyers, were equally important factors that could enhance the use of these banking products in Greece.

Originality: *The novelty of this study lies in the fact that a variety of different econometric and behavioral models were used to investigate in-depth personal factors and factors related to the conduction of transactions that both affect the use of bank cards and cash at a time that Greek transactions require to be contactless.*

Keywords

Card instead cash, Payment method, Transaction factors, Personality elements Payment factors, Structural equation model

1. Introduction

The covid-19 health crisis has brought about multiple changes in different areas worldwide. Financial transactions, especially in the Greek banking system, severe significant changes, as new and innovative banking technologies such as Digital Banking services were not mainly used, affected by various demographics, technological and personal and factors (Anysiadou et al., 2021; Anysiadou, 2021).

Using electronic payment methods such as bank cards instead of cash depend on a variety of factors but mainly on consumers' beliefs and requirements concerning the type of payments and the cost of the transaction instrument (Rusu & Stix, 2017; Chen et al., 2019).

Paying through electronic banking methods instead of cash reduces money holding, which in turn reduces transaction, private and social costs, enchasing consumers' transactions (Berman et al., 2007; Nirmala & Widodo, 2011; Yuliadi & Ariyani, 2021).

However, in many countries, the use of cash, even when it is possible to use electronic means of payment, as is the case in electronic markets, is widespread and mainly in low-cost transactions, replacing bank cards, even in the form of cash on delivery (Bagnall et al., 2014; Alotaibi & Faleel, 2021).

The specific study deals with the bank cards usage instead of cash usage in Greek consumers already bank cardholders, in the Covid-19 period, whereas transactions forced to be contactless. This study is motivated by the need to capture those factors that affect directly and indirectly a bank cardholder to be satisfied from the use thorough an investigation of an individual's attitude and behavior towards those different payment methods. These factors are related to consumers' perceptions about bank card characteristics, kind of transaction, per type, per amount of transaction, and personal factors that lead Greek consumers to choose one of the two payment methods. Therefore, the value of the study is exceptional as its results could facilitate banking managers to examine those factors and reform their digital banking products such as bank cards in a way that would enchase their usage. In the view of the above a literature review took place in section two, while an empirical analysis and its results involved in three and four sections. Discussion, Conclusions and limitations introduced in sections five, six and seven, followed by the bibliography.

2. Literature Review

2.1 Perceptions toward Payment Methods

Factors that influence the choice of payment method vary. For example, individuals' perceptions toward the mean of payment, such as security, privacy protection, ease of use, control of transactions, and the cost of use, can reform consumer's opinion and either promote or repel the specific payment method (Schuh & Stavins, 2013; Huyhn et al., 2014; Van der Cruijsen & Horst, 2016; Qureshi et al., 2018). Specifically, Arango et al. (2016), in their study, found that in countries where consumers consider the use of bank cards to be exceptionally costly with the use of cash, such as Germany, France, and Canada, there is a reduced use of this payment method and extensive use of cash in their transactions, especially in low-value transactions. Transaction mean's acceptance is an indicator of the

perceived convenience offered by this payment method, in conduction with a promotion of its use, especially in the case of bank cards, referring both to domestic and foreign stores (Gan & Mayasami, 2006; Amromin & Chakravorti, 2007; Butt et al., 2010). It is worth noting that both the existence of appropriate technical infrastructure in domestic stores and their ease of use in trips abroad can increase bank card holders' satisfaction (Fosht et al., 2010; Essselink & Hernandez, 2017). However, the perceived risk that a bank card user feels when he pays with this method instead of cash could decrease the use, positive attitude, and intention to continue using those products (Gan & Mayasami, 2006; Abdul-Muhmin & Umar, 2007; Zheng et al., 2012; Khalid et al., 2013). When a person considers that the use of bank cards does not protect his privacy, lucks of trust, and reliability, while he fears personal and financial frauds by using them, he dramatically reduces the use (Wang & Lin, 2019).

2.2 Sectors/Type and Transaction Amount

Internationally, there have been a variety of studies that have examined the use of different payment methods, highlighting the difference between the use of bank cards versus cash, by sector and by type of good (Bounie & Francois, 2006; Cohen & Rysman, 2013; Arango et al., 2015a). In Europe, cash is used widespread in small-neighborhood and street shops for everyday and food-related purchases, while the use of bank cards seems to be more common in larger stores and supermarkets, at fuel stations, for the purchase of durable goods, and at leisure facilities (Van der Cruijsen & Horst, 2016; Essselink & Hernandez, 2017). Van der Cruijsen et al. (2017) also added that when debit card use is relatively new in various sectors or purchasing goods, this payment method could replace cash use. It is worth mentioning that the way the salary is paid and the transaction size could influence someone's choice of payment method. In particular, when consumer salary is paid in cash but also in low-value transactions, the probability of using cash as a mean of payment increases, while in higher amounts, the most preferred payment way is bank cards (O 'Brien, 2014; Essselink & Hernandez, 2017).

2.3 Factors that Enhance Card Use

Correlation of demographic characteristics with the choice of payment method referring to cash and bank cards was deemed necessary over the years (Hayoe et al., 1999). Bank cards' use, whether they involve credit, debit, or other types of bank cards, can be influenced by an individual's demographic characteristics, mainly referring to gender, age, income, educational level but also the status of residence and family (Borzekowski et al., 2008; Gan et al., 2008; Khare et al., 2012). Remarkable found to be the results regarding the effect of age, income level, and educational level, whereas according to Jin and DeVaney (2005) in a sample of 4,442 households in the United States, age seems to play a severe role in the use of this payment method, as opposed to income and educational level, the increase of which leads to an increase in usage. Of particular interest are the characteristics of the user's personality, basically referring to the elements of materialism and compulsive buyers, which could directly and indirectly positively affect the use of bank cards (Nga et al., 2011; Khare 2013; Omar et al., 2014). In their study, Limbu et al. (2012), clarifying that materialism concerns individuals' tendency to continue purchases of material goods, found out that this factor has a remarkable effect on

increasing the use of bank cards and especially credit cards forming a customer loyalty relationship with these products. However, it is worth noting that, in the case of materialism and compulsive buyers, there can also be an opposite effect, that is, the widespread use of bank cards leads to the continued use of reckless and compulsive buyers (Park & Burns, 2005; Torlak & Ali Tiltay, 2012). Both individual's and social environment's attitude towards bank cards and therefore the degree to which a cardholder and those around him are equally satisfied from the use of bank cards has a positive effect not only on the use but also on the recommendation in his social environment (Amin, 2013; Ali et al., 2017; Jamshidi & Hussin, 2016; Ali et al., 2019). Furthermore, Van der Cruijsen and Horst (2016) also stated that when an individual's social environment has a positive attitude and pays electronically during their transactions, the individual intention to adopt electronic payment methods dramatically increases. Bank cards' characteristics, such as various financial charges referring to the interest rate, registration fees, and annual fees, positively affect the use (Butt et al., 2010; Wang et al., 2011; Gan et al., 2016). Financial charges and financial incentives given to bank cardholders greatly influence the use of these products. Some of the incentives provided are loyalty programs, including points collection, promotions, and discounts and refunds in card holders' purchases (Tingchi & Brock, 2009; Ching & Hayashi, 2010; Simon et al., 2010). Particular emphasis is placed on loyalty programs where according to Gan and Mayasami (2006), it is confirmed that they have a positive effect on the use to a greater extent even of the promotional gifts received by bank cardholders. Bank cards' ease of use is a key factor enhancing the use of these products directly and indirectly, through the positive effect on other factors such as security, the belief that it is an easy and convenient means of payment, etc. (Jamshidi & Hussin, 2016; Khare et al., 2012). Specifically, Sevim and Eyuboglu (2017) found that when the user feels easy to use and learns the functions of the bank card, he acquires a more positive attitude towards it, intends to continue using it, and recommends it to others. Another advantage of bank cards and cash is the ability to control the expenses and budget of individuals through the use of different types of payments (King & King, 2005; Khalid et al., 2013). Specifically, if the bank cards offer control of users' expenses, they will be adopted. Based to Suko et al. (2018), consumers who gain positive experiences and perceptions regarding controlling expenses through their bank cards tend to adopt this payment method quickly. Other benefits that the user perceives may be related to payment facilities, time savings through the speed of execution of transactions, and perceived prestige offered by the use, considering that when they use this type of payment, they gain respect in their social environment (Tokunaga, 1993; Meidan & Davo, 1994; Butt et al., 2010; Polasik et al., 2012; Khare et al., 2012; Mamunur-Rashid & Islam, 2019)

3. Research Hypothesis and Data Collection

In order to find out the factors that affect satisfaction from using bank cards, a Multiple Logistic Regression Model and an Extended TAM Model were generated, consisting of technology acceptance and personal factors.

In addition, two Multiple Linear Regression Models have been constructed with dependent variables, Attitude and Behavioral Intention, and independent variables, personal factors, and factors related to the type of the transaction to investigate which of them could maintain or even enhance the use of bank cards. The hypotheses are analyzed below:

3.1 Research Hypothesis for Satisfaction

H1-H5: Technology acceptance factors such as perceived ease of use, perceived risk, positive attitude, and behavioral intention to continue using bank cards, and the characteristics of materialism and compulsive buyers affect (directly and indirectly) the satisfaction of using bank cards.

3.2 Research Hypothesis for Attitude

H6-H11: Perceived prestige and perceived benefits offered by the transaction mean (directly) affect the formation of a positive attitude regarding the use of bank cards.

3.3 Research Hypothesis for Behavioral Intention

H12-H15: Individual demographic characteristics, type of sector and purchase, and the transaction amount directly affect the behavioral intention to continue using bank cards.

A sample of 243 bank cardholders was collected from Athens, Greece, from February to April 2020. A properly constructed questionnaire was conducted, based on various studies (Carbó-Valverde & Liñares-Zegarra, 2011; Khare et al., 2012; Torlak & Tiltay, 2012; Khan, et al., 2015; Van der Cruijsen & Van der Horst, 2016; Jamshidi & Hussin, 2016; Sevim & Eyuboglu, 2017; Wang & Lin, 2019), including technology acceptance, personal and transaction related factors, all measured on a 5-Likert point scale, from strongly disagree to agree strongly. The questionnaire items' explanation is illustrated in Table 1, while the econometric programs used to analyze the data were IBM SPSS Statistics 23 and SPSS Amos 23.

Table 1. Questionnaire's Items and Its Explanations

Dimensions	Definitions according to literature	Items
Acceptance (Accep)	The importance of the payment method's acceptance in the stores for the user	1
Attitude (ATT)	Feeling positive using bank cards	3
Behavioral Intention (BI)	Behavioral intention to continue using bank cards instead of cash	3
Bills	Using Bank cards instead of cash to pay for private accounts and debts to the states in addition to transports expenses	4
DailyP	Using Bank cards instead of cash in order to purchase essential goods such as supermarket, health products, etc	6
Easy	The importance of the payment method's easiness for the user	1
Extra	Additional features of the bank cards such as contribution to tax awareness, reward systems, and facilitation in branches and abroad	5
Perceived Ease Use (PEoU)	There is easiness in using and learning to use bank cards	3

Perceived Risk (PR)	By using bank cards, there is no confidential, reliability protection from economic and personal fraud	5
Perceived Materialism/ Compulsive byers' factors (PF)	The belief that money and additional and frequent purchases could bring happiness	4
Private (Priv)	The importance of the payment method's protection of privacy and anonymity for the user	1
Promo	Promotion features of the bank card such as unique gifts, discounts, and facilitation in payments	3
Satisfaction	Feeling satisfied by using their bank cards	1
Security (Sec)	The importance of the payment method's security in the stores for the user	1
Status	The prestige derived by using bank cards about cash think it is a more sophisticated and beneficial way of managing their transactions	5
PB	Unique Benefits concerning cash/ no worry about the charge, carrying large amounts of money in their pockets and beneficial when traveling abroad	3

4. Data Analysis and Results

4.1 Descriptive Analysis

Descriptive statistics' results showed that the majority of the sample were women (57%), highly educated and knowledgeable about technology, who used 1-2 bank cards (76%) and did not often visit a physical bank branch per month (not at all once a month).

The sample asked about the means of payment they used by sector and by type of purchase to investigate their preferred payment method (bank cards or cash). Figure 1 shows the majority of the sample respondents' answers for each case separately. Specifically, most individuals stated that they use cash for medical care (56%), for buying items in the neighborhood and small shops (66%), and for transactions under 10 euros and between 10 to 25 euros, with percentages of 62%, 42%, respectively.

On the contrary, the majority of the sample stated that they use their bank card to repay their public and private debts (e.g., PPC, telephone bill) (55 and 53.5%), to cover their transport costs (38%), for purchases valued more than 25 euros (41%), for purchases in department stores and supermarkets (44%) and entertainment and leisure expenses (43%).

It is worth noting that the majority of the sample stated that they use both types of payments in restaurants (37.5%) but also in durable goods purchases (40%) such as clothes and home furniture.

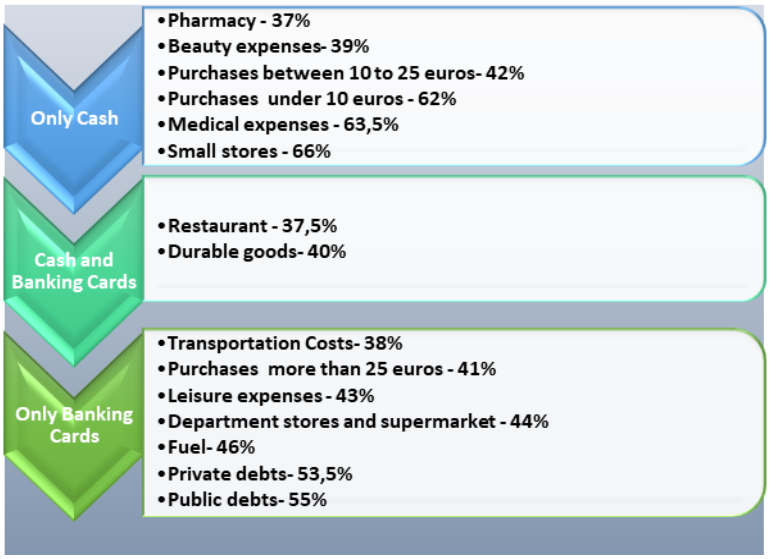

Figure 1. The Mean of Payment (Bank Cards or Cash) that the Majority of the Respondents Use by Sector and by Type of Purchase

Figure 2 shows the results of the sample's answers about specific characteristics of these payment methods. The majority stated that they process fast, easy, secure, and economical transactions using bank cards, while cash use protects their privacy and gives them wide acceptance, mainly in domestic stores.

Figure 2. Payment Method's Characteristics that the Respondent Considers to Belong to Each of Them

4.2 Explanatory Factor Analysis for Satisfaction

In order to investigate the factors that affect bank card holders' satisfaction, two different econometric methods were performed; a Multiple Logistic Regression Model and then, to find out the indirect effects of the investigating variables, an analysis of a Structural Equation Model. Firstly, exploratory factor analysis was performed, shown in Tables 2 and 3, including the latent research variables resulting from this method, their reliability, and good fit indices that confirm the correctness of the use of the specific methodology. Specifically, from Table 2, it is evident that five latent variables emerged. Initially, the perceived risk factor generated included individuals' beliefs regarding their fear of using

bank cards because they may not protect their personal information and money and lucks of trust and reliability. This factor contains five questionnaire items, and its reliability index is 0.682-0.922. The second factor refers to the continued use of bank cards by existing users and the recommendation of these products in their social environment, with a reliability index of 0.463-1.088, consisting of three questionnaire items. Ease of bank card use and learning to use was the third factor with a reliability index of 0.794-0.999, while individuals' characteristics, such as materialism and compulsive buyers, were the fourth factor with a reliability index of 0.57 0.862, consisting of 4 variables. This factor refers mainly to the feeling of relief of someone when buying products in special offers and non-essential products, in combination with the consideration that money and pointless shopping could enchase happiness. The last factor refers to an individual's positive attitude towards using these products, with a reliability index of 0.654-0.916.

Table 2, Results from Explanatory Factor Analysis, Factors Loading and Variance Explained

		PR	**BI**	**PEoU**	**PF**	**ATT**
Eigen Value		7.17	3.681	1.895	1.299	0.665
% of Variance		39.834	20.449	10.526	7.218	3.693
Cumulative %		39.834	60.283	70.808	78.026	81.719
Chronbach's Alpha		**0.922**	**0.91**	**0.933**	**0.832**	**0.946**
PR	PR2	0.922				
	PR1	0.897				
	PR3	0.842				
	PR4	0.826				
	PR5	0.682				
BI	BI2		1.088			
	BI1		0.882			
	BI3		0.463			
PEoU	PEoU2			0.999		
	PEoU3			0.895		
	PEoU1			0.794		
PF	M2				0.862	
	M1				0.818	
	PCom1				0.731	
	PCom2				0.57	
ATT	Att2					0.916
	Att1					0.911
	Att2					0.654

Table 3. Keiser-Meyer-Olkin, Bartlett's Test of Sphericity Indicators and Discriminant Validity

Indicators	**Value**	**Factors**	1	2	3	4	5
Kaiser-Meyer-Olkin (KMO)	0.845	PR	1	-0.259	-0.291	0.123	-0.333
Bartlett's Test of Sphericity		BI	-0.259	1	0.512	0.269	0.727
Approx. Chi-Square	3.892.764	PEoU	-0.291	0.512	1	0.266	0.676
df	153	PF	0.123	0.269	0.266	1	0.292
P-Value	0.000	ATT	-0.333	0.727	0.676	0.292	1

4.3 Multiple Logistic Regression Model Results for Satisfaction

Afterward, using the outcomes of the explanatory factor analysis, a Multiple Logistic Regression Model was performed, the results of which are shown in Table 4. All the indexes of good fit (Loglikelihood = 197.449, Hosmer and Lemeshow = 12.983, Prob Chi2 = 0.112) confirm that the multiple logistic regression model (Model II) fit appropriately to the data and 53.5% of the variance of the probability that someone is satisfied with the use of bank cards, explained by this model. Using latent variables as independent variables resulting from the previous analysis and a dependent variable, the probability that the user is satisfied with the use of bank cards, it was found that all variables except personal characteristics were statistically significant and affected the satisfaction of cardholders. Specifically, in 1% statistical significance level, the perceived risk that the user felt reduces the probability of being satisfied with the use of bank cards (β = -0.766), while perceived ease of use (β = 0.884), positive attitude (β = 0.908) and behavioral intention to continue using and recommending bank cards in their social environment (β = 0.793), increase the probability of a Greek consumer to be satisfied by his/her bank card use.

Table 4. Results from Multiple Logistic Regression Model with Dependent Variable the Probability of the Cardholder User to be Satisfied from the Use

Independent Variables	**Model I**	**Model II**		
	Estimated Coefficients	**Estimated Coefficients**	**Odds ratio**	**Marginal effect**
Constant	1.027*** (0.19)	1.020*** (0.19)	2.773	1.773
PR	-0.796*** (0.24)	-0.766*** (0.24)	0.467	-0.553
PEoU	0.883*** (0.28)	0.884*** (0.28)	2.421	1.421
PF	0.152 (0.21)	-	-	-

ATT	0.908*** (0.33)	0.908*** (0.33)	2.479	1.479
BI	0.755*** (0.27)	0.793*** (0.26)	2.210	1.21
Nagelkerke R^2	0.535	0.533		
Loglikelihood	196.956	197.449		
Hosmer and Lemeshow	6.165	12.983		
Prob Chi2	0.629	0.112		
N	243	243		

Note that ***, ** and * represent the significance levels of 1%, 5% and 10%, respectively, while the number in parenthesis are standard errors

4.4 Structural Equation Model Analysis for Satisfaction

After the exploratory factor analysis, confirmatory factor analysis and a structural equation model were also performed to investigate the indirect effects of the latent variables on satisfaction. Table 5 shows the indexes of a good fit for both models and the recommended values according to the literature (Bagozzi & Yi, 1988; Browne & Cudeck, 1993; Gefen et al., 2000), proving the validity of the specific method. Table 6 shows the results from the structural equation model, including hypothesis test, regression path (Hypothesized path), standard regression estimates (Coefficient), standard errors (S.E.), critical values of the equation (C.R.), probability values (p-Value), and indications of the research hypothesis test for each equation, while in Figure 3 the proposed structural equation model is illustrated, including latent variables and the relationship between them.

Table 5. Indexes of good fit for CFA Model and Structural Equation Model According to the Literature

Indices	Recommended value	CFA Measurement Model	SEM Model
CMIN/ X2(df)	<3	3.47/ 427.630 (123) ***	3.90/ 539.498 (138) ***
CFI	>0.90	0,923	0.902
GFI	>0.80	0.841	0.827
SRMR	<0.090	0.0564	0.08

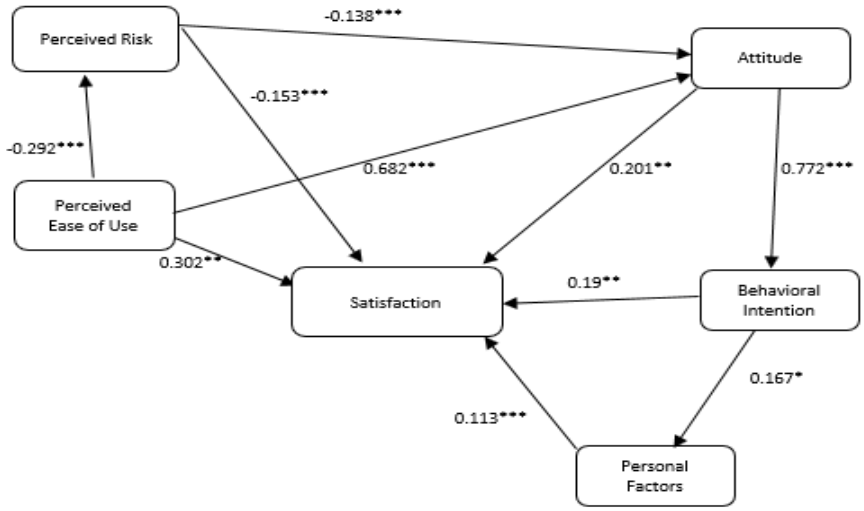

Figure 3. The Proposed Structural Equation Model, Including Coefficients and Statistical Significance from Every Path

As it is obvious from Table 6, a direct and positive effect on satisfaction (SAT) was found to be from perceived ease of use- PEoU (β = 0.302, α = 5%), positive attitude (ATT) towards the use of bank cards (β = 0.201, α=5%), behavioral intention (BI) in continued use and recommended in social environment (β = 0.19, α= 5%) and from individual's personal characteristics (PF), referring to the element of materialism and compulsive byers (β = 0.113, α = 1%). Perceived risk (PR) found to have a direct and negative effect on satisfaction (β = -0.153, α = 1%). All the previous variables were found to have also indirect effects on satisfaction, forming the relationships of other variables with satisfaction. Specifically, perceived ease of use has a positive and indirect effect on satisfaction, through the direct effect on positive attitude (β = 0.166, α = 5%), on attitude and behavioral intention (β = 0.147, α = 5%), and perceived risk through attitude and behavioral intention. Perceived ease of use was found to have a direct and positive effect on positive attitude (β = 0.682, α = 1%) and a direct negative one on perceived risk (β = -0.292, α = 1%). Perceived risk has a negative and indirect effect on satisfaction, through the direct and negative effect on positive attitude (β = -0.101, α = 5%) and on attitude and behavioral intention (β = -0.139, α = 5%). Perceived risk found to have also a direct and negative effect on positive attitude (β = - 0.138, α = 1%), and a negative and indirect effect on behavioral intention (β = -0.279, α = 5 %). Attitude towards bank card usage has a positive and indirect effect on satisfaction, through the direct effect on behavioral intention (β = 0.270, α = 5%), and on behavioral intention and individual's personal characteristics (β = 0.011, α = 5%). This factor found to have also a direct and positive effect on behavioral intention (β = 0.772, α = 1%) and an indirect and positive effect on individual's personal characteristics through behavioral intention (β = 0.177, α = 1%). Finally, behavioral intention found to have a direct effect on individual's personal characteristics (β = 0.167, α = 5%). Therefore, from the whole methodologies related to cardholder's satisfaction, we conclude that most research hypotheses H1, H2, H3, H4, and H5 are confirmed.

Table 6. Results from Structural Equation Model and Hypothesis Tests

Hypothesis	Path	Coefficients	S.E.	C.R.	p-Value	Remark
H1b	PEoU→ATT	0.682	0.058	12.139	0.000	Supported
H1c	PEoU→PR	-0.292	0.070	-4.26	0.000	Supported
H1d	PEoU→ Satisfaction	0.201	0.047	2.566	0.010	Supported
H1e	PEoU→PR→ ATT	0.115	0.051	2.333	0.011	Supported
H1f	PEoU→ ATT→ BI	0.539	0.093	5.763	0.000	Supported
H1g	PEoU→ATT→ Satisfaction	0.166	0.044	2.090	0.030	Supported
H1h	PEoU→PR→ATT→ Satisfaction	0.047	0.013	2.076	0.011	Supported
H1i	PEoU→ATT→BI→ Satisfaction	0.147	0.029	3.724	0.023	Supported
H1j	PEoU→PR→ATT→BI→ Satisfaction	0.030	0.010	1.9	0.011	Supported
H2b	PR→ATT	-0.138	0.054	-2.62	0.009	Supported
H2c	PR→Satisfaction	-0.153	0,033	-2.716	0.000	Supported
H2d	PR→ ATT→ BI	-0.279	0.065	4.261	0.015	Supported
H2e	PR→ATT→ Satisfaction	-0.101	0.022	2.045	0.014	Supported
H2f	PR→ATT→BI→Satisfaction	-0.139	0.016	3.375	0.012	Supported
H3b	ATT→BI	0.772	0.062	12.089	0.000	Supported
H3c	ATT→Satisfaction	0.201	0.062	1.873	0.061	Supported
H3d	ATT→BI→Sat	0.270	0.035	4.657	0.026	Supported
H3e	ATT→BI→PF	0.177	0.063	2.809	0.007	Supported
H3f	ATT→BI→PF→Satisfaction	0.011	0.009	1.222	0.041	Supported
H4b	BI→PF	0.167	0.066	1.705	0.088	Supported
H4c	BI→ Satisfaction	0.19	0.052	2,155	0.031	Supported
H5b	PF → Satisfaction	0.113	0.037	2.722	0.000	Supported

4.5 Explanatory Factor Analysis for Behavioral Intention (BI) and Attitude (ATT)

From previous results of both methodologies, we conclude that attitude and behavioral intention had a remarkable effect on bank card usage, so we move on to examine other factors related to individual personal beliefs and transaction-related factors that affect each of these variables separately. Regarding attitude towards bank card usage, variables related to card holders' perceptions of the benefits and functions of the cards compared to cash were examined. The explanatory factor analysis's results, combined with good fit indexes that proved the validity of the analysis, are shown in Tables 7 and 8. Specifically, two latent variables emerged, concerning prestige and benefits that cardholder perceives, using a bank card instead of cash, during purchases. Factor named Status refers to card holder's belief that bank cards are more sophisticated, in line with his/her image, increasing his/her prestige compared to cash use, consisting of five questionnaire items, with reliability index 0.535-0.907. On the other hand,

factor PB concerned the unique benefits that bank card user gains, such as facilities offered by the bank cards in traveling abroad and in daily transactions, since they do not need to carry large amounts of money in their wallet, consisted of three questionnaire times, with reliability index 0.596-0.96.

After that, another exploratory factor analysis was also carried out regarding behavioral intention to extract factors related to transaction type and bank card features. The results, combined with good fit indexes that proved the validity of the analysis, are also shown in Tables 7 and 8. As a result, four latent variables related to sectors, type of goods, and bank card features emerged. Specifically, two latent variables emerged, referring to sectors and types of goods. The daily factor was the first factor related to consumers' essential and everyday purchases, such as supermarkets, clothes, and health care products, including six questionnaire items with a reliability index of 0.63-0.907. Bills factor was the next, referring to using a bank card to conduct repayments of private and public debts and cover their transportation costs, including four questionnaire items, with a reliability index of 0.449-0.908. The third and fourth factors were related to bank card features. The Promo factor refers to an individual's perceptions about a bank card's promotional characteristics, such as special discounts, promotional gifts, and shopping facilities (reliability index 0.565-0.876). Extra factor refers to individuals' perceptions about new and innovative bank card features, related to transaction mean acceptance in domestic stores and traveling abroad, reward programs, and their contribution to tax awareness, with a reliability index of 0.632-0.877.

Table 7. Results from Explanatory Factor Analysis for Attitude and Behavioral Intention

Attitude		**Stat**	**PB**	**Behavioral Intention**		**DailyP**	**Extra**	**Bills**	**Promo**
Eigen Value		4.079	1.387	Eigen Value		6.315	3.592	1.399	1.151
% of Variance		50.987	17.338	% of Variance		35.081	19.955	7.77	6.392
Cumulative %		50.987	68.325	Cumulative %		35.081	50.036	62.806	69.198
Chronbach's Alpha		0.857	0.804	Chronbach's Alpha		0.89	0.88	0.833	0.819
Status	Stat1	0.901		**DailyP**	Pay1	0.907			
	Stat2	0.861			Pay2	0.816			
	PComp2	0.7			Pay3	0.736			
	PComp1	0.588			Pay4	0.724			
	PerConv	0.535			Pay5	0.643			
					Pay6	0.623			
PB	PB5		0.96	**Extra**	Ex1		0.877		
	PB4		0.771		Ex2		0.875		
	PB6		0.586		Ex3		0.736		
					Ex4		0.716		
					Ex5		0.632		

	Bills	Bill1	0.908	
		Bill2	0.883	
		Bill3	0.522	
		Bill4	0.449	
	Promo	Promo1		0.876
		Promo2		0.825
		Promo3		0.565

Table 8. Keiser-Meyer-Olkin, Bartlett's Test of Sphericity Indicators and Discriminant Validity

Indicators (Attitude)	**Value**	**Factors**	1	2		
Kaiser-Meyer-Olkin (KMO)	0.782	Stat	1	0.530		
Bartlett's Test of Sphericity		PB	0.530	1		
Approx. Chi-Square	972.143					
df	28					
P-Value	0.000					
Indicators (Behavioral Intention)	**Value**	**Factors**	1	2	3	4
Kaiser-Meyer-Olkin (KMO)	0.854	DailyP	1	0.186	0.585	0.291
Bartlett's Test of Sphericity		Extra	0.186	1	0.216	0.617
Approx. Chi-Square	2.618.539	Bills	0.585	0.216	1	0.232
df	153	Promo	0.291	0.617	0.232	1
P-Value	0.000					

4.6 Multiple Linear Regression Models Result for Behavioral Intention (BI) and Attitude (ATT)

Table 9 includes the results of two Multiple Linear Regression Models, employing attitude and behavioral intention factors as dependent variables for each equation and independents latent variables derived from explanatory factor analyses. The attitude regression model also added factors related to elements of payment methods, concerning payment method's acceptance in stores, ease of use, security of transactions, and individual privacy protection. Respectively, demographic characteristics of gender and income and items concerning transaction value were added as independents in the behavioral intention model. From both final models (Model II) and the indicators of good fit, it is proven that Models II fit properly to the data. 63.7% of the variation of the positive attitude and 44.2% of the variation of behavioral intention for continuity/recommendation in the social environment are interpreted by those multiple linear regression models, respectively. The results showed a positive effect of factors, Status ($\beta = 0.460$, $\alpha = 1\%$); individual's belief that bank card usage enchases their prestige instead of using cash, and PB ($\beta = 0.223$, $\alpha = 1\%$); perceived benefits when using a bank card, on positive attitude towards using bank cards during transactions. Furthermore, from the two payment

methods' elements, it is found that acceptance, security, and ease of use have a positive effect on bank card usage, while privacy protection has a negative effect (β = -0.188, α = 1%). Regarding the model of behavioral intention, it is worth mentioning that a positive influence was found from the demographic characteristics, and specifically from the gender (women, β = 0.366, α = 1%) and the level of income (β = 0.092, α = 1%). In addition, factor Bills (β = 0.185, α = 1%), i.e., the use of the bank card when paying bills, factor Promo (β = 0.304, α = 1%), i.e., its promotional characteristics, and factor Extra (β = 0.169, α = 5%), ie the additional innovative features of bank cards, were also found to have an exceptional positive effect on behavioral intention. Remarkable are the results regarding the value of transactions which, as it seems, factor value 10-25; conducting transactions from 10 to 25 euros using the bank card, found to have a positive effect on increasing the behavioral intention (β = 0.211, α = 1%), while factors under10 and More 25; conducting transactions below 10 and up 25 euros using the bank card, were not statistically significant. No influence on behavioral intention was found in the variable Daily, which refers to the daily and essential purchases using a bank card. Therefore, we conclude that all the research hypotheses are confirmed.

Table 9. Results from Multiple Linear Regression Models with Dependent Variables the Attitude and Behavioral Intention to Continue Use and Recommend to Social Environment, Respectively

Attitude	**Model I**	**Model II**	**Behavioral Intention**	**Model I**	**Model II**
Indepented variables	**Estimated Coefficients**	**Estimated Coefficients**	**Indepented variables**	**Estimated Coefficients**	**Estimated Coefficients**
Constant	-1.88^{E}-16	-1.316***	*Constant*	-1.007***	-1.017 ***
	(0.04)	(0.26)		(0.220)	(0.17)
Status	0.540***	0.460***	*Gender*	0.326***	0.336***
	(0.05)	(0.05)		(0.103)	(0.10)
PB	0.325***	0,223***	*Income*	0.090**	0.092***
	(0.05)	(0.05)		(0.035)	(0.03)
Accep	-	0.167***	*Dailypay*	0.049	-
		(0.05)		(0.078)	
Sec	-	0.222***	*Extra*	0.173**	0.169**
		(0.064)		(0.071)	(0.06)
Priv	-	-0.188***	*Bills*	0.153**	0.185***
		(0.04)		(0.068)	(0.05)
Easy	-	0.203***	*Promo*	0.293***	0.304***
		(0.05)		(0.073)	(0.07)
R^2 Adjusted	0.752	0.637	*Under10*	-0.011	-
F	155.734	71.714		(0.059)	

sig	0	0	*Value10-25*	0.180**	0.211***
N	243	243		(0.075)	(0.04)
			More25	0.034	-
				(0.064)	
			R^2 Adjusted	0.437	0.442
			F	21.832	32.895
			Sig	0.000	0.000
			N	243	243

Note that ***, ** and * represent the significance levels of 1%, 5% and 10%, respectively, while the number in parenthesis are standard errors

5. Discussion

The specific research results showed that Greek consumers are satisfied with the existing bank cards but continue to use primary cash transaction means during purchases. Although Greeks use bank cards in many of their transactions, mainly in medium and high-value transactions, cash continues to be their primary transaction mean in conducting critical transactions such as medical care, low cost, and in small neighborhood stores transactions, which indicates the need for bank card system restriction in Greece. According to the results, Greek consumers and bank card users are positively affected by bank card usage when they are easy to use, reliable, and protect personal and financial data. In addition, compulsive byers and materialism found to have an extraordinary impact on bank card usage, demonstrating the need to connect bank cards' purchases and material goods, giving perhaps additional benefits for its use. The results are in line with those of Limbu et al. (2012), Omar et al. (2014), Van der Cruijsen and Horst (2016), Jonker et al. (2018) and Qureshi et al. (2018).

Greek banks should give particular emphasis on forming a positive attitude towards bank cards as well as to enchase behavioral intention to continue use them and even recommend those products in their social environment, since, as proved by two different methodologies, both factors can contribute (directly and indirectly) to be a satisfied card user. Furthermore, specific attention should be given to security, card holder's privacy protection, the sense of perceived prestige during the use, and bank card's facilities as they are vital factors in shaping a positive attitude towards these banking products (Khare et al., 2012; Khan et al., 2015).

In addition, both sectors, types of transactions, and transaction value could influence bank cards usage, which is consistent with the results of studies by Kosse and Jansen (2013), Arango et al. (2015b), Henry et al. (2015), Essselink and Hernandez (2017) and Van de Cruijsen et al. (2017). Mainly, bank cards' use by the Greeks, to repay private and public bills, cover their transport expenses, and in medium value purchases (10 euros to 25 euros), found to positively increase the behavioral intention to continue using and recommend those products in their social environment. Consequently, the need for Greek banks to provide properly incentives, giving some additional rewards to users in this type of transaction,

increasing the use of this means of payment is urgent.

It is worth mentioning that these incentives could be combined with other existing promotional features of bank cards, such extra discounts, gifts and general shopping facilities, or even with new, innovative features such as, the contribution to tax awareness, facilities for traveling abroad etc., as they also proved to play an important role, in increasing behavioral intention of already bank card users (Arango et al., 2016; Banerji & Farooqi, 2017; Hernandez et al., 2017; Mamunur-Rashid & Islam, 2019).

6. Conclusion

The covid-19 crisis reveals the need for bank system restructures worldwide. Moreover, the specific study results shed light on those factors that affect bank cards' instead cash usage in Greek consumers transactions.

Through various econometric and behavioral methodologies, it is proven that factors such as ease of use, acceptance, security, and privacy protection that these kinds of payments provide have a positive effect on satisfaction during the use. In addition, promotional and innovative bank cards' features as well as the kind of the purchase, referring to the sector, type of good, and transaction size, can indirectly influence the use through the direct influence on both the formation of a positive attitude and behavioral intention to continue use and recommend bank cards in their social environment. Finally, it is noteworthy that individual characteristics such as materialism and compulsive buyers, and the sense of prestige that a user feels during bank card usage, could also positively affect the enhancement of the use.

7. Limitations

This research examined the use of two different payment methods, bank cards and cash, during the Covid-19 period in Greece. For future research, it is worth investigating those payment methods usage after the Pandemic to determine if there has been any change due to this health crisis.

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