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Determination the Bank Preferences and Store Card Using Habits of Students of Faculty of Medicine and Faculty of Dentistry through Logistic Regression

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Abstarct

The aim of this is study to determine the bank preferences and store card using habits of students of Faculty of Medicine and Faculty of Dentistry through logistic regression. The population of our research is the students of Faculty of Medicine and Faculty of Dentistry in Dicle University. The data related to the study were collected through a survey using face-to-face technique. The sampling of the study consists of 229 medical students and 222 students of Faculty of Dentistry (451 students in total). Categorical variations that show the bank preferences and store card using habits of students were tested through chi-square test. The bank card preference of the students was taken as dependent variable. Variables that determined the preferences for bank cards and store cards were studied through binary logistic regression method. Variables that showed the bank preferences and credit card using habits of students were age, gender, the number of family members, education level of the mother and father, the average monthly income, and residence. The variables that were found to be effective in bank credit card using habits of the students were, education level of the mother, from whom the students got financial support for covering their expenses, average monthly income, where they resided, their bank credit card using preferences in shopping, bank cards, the number of the cards they used, and the sufficiency of the discounts made in stores.

Through backward logistic regression, the classification rate of the last model that developed in the seventh stage was found to be 80.5%. The important items that were found to be important in determining the dependent variable: education level of the mother, credit card using, store cards, bank preference and the number of automated teller machines in campus area were used in the model.

Key words: Credit Card Preference, Store Card, Binary Logistik Regression

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Introduction

Increasing competition, products and services that look like each other a lot, increasing difficulty in product differentiation for the enterprises, decreasing prices and decreasing profits all have made organizational behaviours customered today. The most effective way of competition, by creating customer loyalty, for the banks in financial service sector is the establishment of long term business relationships with customers, which is called Customer Relationship Management (CRM) (Savaşçı and Tatlıdil, 2010).

The rapidly growing credit card sector in Turkey is in competition to include the students into its customers as well. We wanted to find out the bank card using habits of university students and the problems they face regarding bank services in campus area and in Diyarbakır.

In Dicle University there are 7724 (38.9%) female students and 12096 (61.1%) male students, in total 19820. Approximately 90% of the students are from South East Anatolia region. This study was conducted in order to determine the bank card and store card using habits of the students. In using bank cards and store cards, logistic regression that defined the relationship between the set of independent variables consisting of continuous and discrete variables was used through binary result variable.

The reason why we chose the sampling group from students of Faculty of Medicine and Faculty of Dentistry for our study is that the students studying in the two faculties normally have families of better life conditions compared to the students in other faculties.

Credit cards are used by every segment of our society, from college students to retirees, from the unemployed to hopeful entrepreneurs, from some of the poorest households to the wealthiest, and across all race, sex, and ethnic groups (Evans, 2004). Credit card has been used in Hong Kong, Singapore, Malesia, Thailand, Philippines and Russia since 1990s (Durukan et al., 2005). With the targeted customer group in companies that apply Customer Relationship Management (CRM), life-long development of relationships is focused on, and obtaining a sustainable profitability is put forward (Ryals and Payne, 2001).

Alhassan and Yakubu have reported that there are people who do not want to use credit cards because of their belief, the Muslims have hesitations in using bank cards, and the penetration of bank card using in Saudi Arabia is low (Alhassan and Yakubu, 2007).

Zhang, who has conducted a study on Chinese market, says the following for the Chinese who prefer individual life style rather than collectivisim : "A recent study of Generation X in Mainland China illustrates that these young people are bicultural," (Zhang, 2009).

Therefore, in emerging markets and developing consumer societies, will consumers increasingly seek out hidonic value in their shopping activities? Furthermore, will it become one of the core features of a commerical and market society in the contemporary retail environmental (Wood, 2005).

HERE ARE SOME CREDIT CARD STUDIES OF SOME BANKS IN TURKEY REGARDING UNIVERSITY STUDENTS

a-Axess Neo Exi26 Card of Akbank: Akbank has launched Exi26 for university students and young professionals between 16 and 26 years of age. The young people

can do shopping, withdraw cash from stores and earn chip-money from the shopping (http:// www.akbank.com/124.aspx).

b- University Card of İşbank: The minimum limit of University Card of İşbank, which gives credit cards at low interest rates to the students, is 300 Turkish Liras (TL), which is equal to 150 euros. Address: (http://www.istegenc.com.tr/isteuniversiteli/article.asp?Ingarticle=2683).

c-Unibank Card of Garanti Bank: With the slogan "You have an account to use any moment", Unibank Card opens Turkish Lira drawing account. This is an account from which money can be withdrawn from Garanti ATMs (http://www.garanti.com.tr /bankacılık/ bireysel/yasamevreleri/unibank/index.html)

Similarly, Campus Card of HSBC, Play Club World of Yapı Kredi Bank, Card Finans University Card of Finans Bank offer special interest rates for students.

THERE ARE 16 DIFFERENT BANK BRANCHES IN DİYARBAKIR.

Ziraat Bank is a bank for farmers. Halk Bank is a bank for craftsmen and tradesmen. The names of other banks are as follows: Ak Bank, Deniz Bank, Euro Bank, Finans Bank, Fortis Bank, HSBC Bank, Ing-Bank, İller Bank, Şeker Bank, TEB Bank, Garanti Bank, İş Bank, Vakıf Bank and Yapı Kredi Bank.

SOME STUDIES ON BANK CARDS AND STORE CARDS

Using bank card has increased particularly in recent years as a result of increasing competition between banks and intensive marketing efforts in delivery of credit cards by the banks. The easy use of cards, their eliminating the need to carry cash and making the bill

payment at a later date possible are the other facilities that increase use of credit cards (Başarır, 1990).

In the study entitled "The Effect of Customer Relationship Management (CRM) Strategy, which is Applied by the Banks in Credit Card Market, on Customer Loyalty" the card used most is Bonus Card of Garanti Bank with 57.6%. Worldcard of Yapı Kredi Bank is the second with a percentage of 41.3%. The third is Maximum Card of İş Bank with 32.1% (Savaşçı and Tatlıdil, 2010).

Oktay et al (2009), in the study entitled "Factors that Have Impact on Credit Card Ownership in the City of Erzurum", found out that job, average household income per month, payment method at shopping, the idea that credit card is useful are factors increasing the shopping tendency (Oktay et al., 2009).

Different researches show that consumer satisfaction is having positive influence on consumer purchase intentions (Oliver,1999; Alexandris et al.,2002; Harrison ,2004). Found positive relationship between consumer satisfaction and purchase intention (Yu et al.,2005). Also found that overall customer satisfaction positively influences customer loyalty.

(Ali et al.,(2010) in a study named "Effects of corporate social responsibility on consumer retention in cellular industry of Pakistan" said that **a**lthough it is generally considered that purchase intention of consumer should lead consumer towards purchase decision, purchase intention does not always result in an actual purchase. The relevant internal psychological process that is linked with purchase decision is important. The organization must facilitate the consumer to influence on their purchase intention. The CSR actions of the organization may encourage purchase intentions of customers.

The aim of using the store card is to gather data related to the variables that display the social identities of the customers. The banks and stores intend to determine the consuming habits of their customers.

Materials and Methods

DATA SET AND RESEARCH METHOD

In this study, we tried to find out the variables that were effective in ownership of credit cards of university students. These variables are socio-economic or demographic changes. In our university we have 19820 students at present. Instead of studying all students in all faculties, only the students at the two faculties were targeted since their characteristics were already known. Health sector is a sector that attracts attention in all over the world. Therefore, the population of our research is the students of Faculty of Medicine and Faculty of Dentistry in Dicle University. The data related to the study were collected through a survey using face-to-face technique. The sampling of the study consists of 229 medical students and 222 students of Faculty of Dentistry, 451 students in total.

THE AIM AND LIMITATIONS OF THE RESEARCH

The study was conducted as a descriptive study. Survey technique was used as data collecting method. To provide comprehensibility and reliability of the survey questions, a preliminary test was applied to 40 students. After doing some arrangements for the information obtained, the survey was applied to the students of Faculty of Medicine and Faculty of Dentistry.

EVALUATION OF RESEARCH FINDINGS

Frequency and percentage distribution were used in analysis of data. Categorical variations that show the bank preferences and store card using habits of students were tested through chi-square test. Binomial test and logistic regression method were used. The credit card preference of the students was taken as dependent variable. Variables that determined the preferences for credit cards and store cards were studied through binary logistic regression method.

VARIABLES USED IN THE STUDY

In the study, variables such as Age (x1), Gender (x2), Number of family members (x3), Mother's education level (x4), Father's education level (x5), From whom do you get financial support for covering your expenses? (x6), What is your average montly income? (x7), Where do you reside? (x8), Do you get credit (x9), Do you get a bursary? (x10), Do you use credit cards? (x11), What do you think on using credit cards while shopping? (x12), Which store card do you use in shopping? (x13), Which bank card do you use? (x14), How many different bank cards do you use? (x15), Do you think the number of automated teller machines is enough in our university? (x16), Are the discounts made in stores in Diyarbakır enough? (x17), The automated teller machine of which bank would you like in campus area of our university? (x18) were studied. We put forward hypotheses in order to find out credit card and store card using habits of the students.

HYPOTHESES OF THE STUDY

H_1: The number of family members has effect on ownership of credit card.

H_{2A}: The education level of mother has effect on ownership of credit card.

H_{2B}: The education level of father has effect on ownership of credit card.

H_3: The groups that cover the expenses of students are various.

H_4: There are no differences between locations where students reside.

H_5: 50% of the students get credit.

H_6: 50% of the students get a bursary.

H_7: Half of the students use credit card.

H_8: 50% of the students find using credit card useful.

H_9: There are no differences between store cards that the students use.

H_{10}: There are no differences between bank cards that the students use.

H_{11}: There are no differences between the number of bank cards that the students use.

H_{12}: The students find the number of ATMs used in campus area sufficient.

H_{13}: The stores in Diyarbakır apply satisfactory discount.

H_{14}: There are no differences between bank preferences of the students.

H_{15}: Independent variables are effective in students' using credit cards.

LOGISTIC REGRESSION METHOD

The aim of using logistic regression analysis is the same as of other model construction techniques used in statistics. The aim is, by using the least variable, to construct the model that can define the relationship between the result variable (dependent or answer variable) and the set of of independent variables (explanatory variables) to have the best compatibility and that can generally be acceptable (Cengiz, 2009).

In discriminant and logistic regression analysis the number of groups in data structure is known and a discrimination model is obtained making use of these data. Thanks to this model, the subjects that are newly taken to the set of data are appointed to the groups (Çabuk et al., 2006).

For discriminant analysis to discriminate the groups in the best way, independent variables should be compatible with normal distribution. In addition, covariances should be equal in all groups in discriminant analysis. Therefore, if nominal and ordinal scale (non-metric) variables are used between independent variables in discriminant analysis, hypotheses can not be obtained. However, in logistic regression method these hypotheses are not seeked for independent variables. Logistic regression model is written as follows:

$$L = \ln\left[\frac{p_i}{1-p_i}\right] = b_0 + b_1 x_i + e_i \qquad (1)$$

Since the parameters of logistic regression method are not obtained analitically, they are guessed through Maximum Likelihood=ML technique as an iterative method (Kalaycı, 2008).

Logit Model

In logit model the expression that shows the credit card ownership of the student is as follows:

$$P_i = E(Y = 1 / X_i) = \frac{1}{1 + e^{-(\beta_0 + \beta_1 X_1 + \beta_2 + ... + \beta_{17} X_{17})}} \qquad (2)$$

In this notation e denotes natural logarithm base (e=2,7182), x_i, (Z) denotes independent variables, and P denotes possibility of having credit card. Y=1 means that the students possess a credit card. Logit Model, in other words '(2)', is shown in another equation below.

$$P_i = \frac{1}{1+e^{-Z_i}} \qquad (3)$$

$Z_i=ß_0+ß_1D_1+ß_2D_2+\ldots. +ß_{17}D_{17}$

Number (3) equation is known as (cumulative) logistic distribution function.

SPSS 15.0(SPSSFW, SPSS Inc., Chicago, Il., USA) statistical package programme was used for the analysis of data.

Results and Discussion

Since only one bank branch is frequently worked with in the campus area of our university, we wished to determine the bank preferences of our students and present this in our study. It is obvious that the services of a single bank to a university with the staff of 5000 and 19820 students are not enough. We believe that working with two or three banks at the same time will really be useful. Banks are service sectors. They serve to the people, the students, and university staff.

In this study, descriptive statistics are given in tables. When Table 1 is examined, it is seen that the average age of the students is 21,15±2,04, the average number of persons in their families is 6,7±2,3, and their average monthly income is 275±105 $.

Table 1 A Significant difference was found between the education level of students' mothers. 41.7 % of the mothers are not literate, 32.8% of them are graduates of primary school. Only 7.1% of them are graduates of secondary school. Those who are graduates of high school are just 11.5%. Mothers with college education are 6.9% . There was significant difference between the education level of mothers. It was seen that the groups that were found different were those who were not literate (1), graduates of primary school (2), and those who were graduates of high school (3), respectively, (p=0,000).

Table 1 B It was found out that the level of father's education was different from the level of mother's education. Education level of fathers was determined to be 32.4% for graduates of primary school (1), which was the highest, and 20.2% for graduates of college education (2), respectively. These differences are statistically significant (p=0,000).

Table 2 C While 21.7% of the students get financial support from their families, 40.8% of them get credit. Those who get a bursary are 31.3%. Only 6,2% of the students are able to make use of all mentioned opportunities.

Table 2 D It was found out that 43.7% of the students live with their families. While those who stay in state dormitories are 15.3%, the ones who stay in private dormitories are just 3.3%. The rest of the students, 37.7%, stay with their friends by renting houses or flats. Regarding their residences, there were significant differences (p=0,000).

In the study conducted by Keskin and Koparan (2010), 29% of the students were found to be staying with their friends, whereas this rate was 37.7% in our study (p<0.001).

Table 2 E It was revealed that 52.8% of the students get credit, 40,8% of them get a bursary, and 36.1% of them use credit cards. 63.9% of the students who do not use bank credit card, are unreachable potential customers for the banks. 34.8% of the students find using credit card in shopping useful. Those who find using credit card bad in shopping are 40.8%. The percentage of those with no idea is 24.4%. Significant difference was found between distribution of students to these behaviour groups ($\chi^2 = 18.65$,P=0,000).

Table 3 F The store cards that the students use most are carrefoursa (20.4%), migros (15.5 %), and boyner (7,8%). There was significant difference between the store card preferences of the students ($\chi^2 = 19.10$, P=0,000).

Table 3 G The banks that the students prefer are 33.3% for Ziraat Bank, 32.8% for İş Bank, 8.6% for Vakıf Bank, 7.3% for Yapı kredi Bank, 6.4% for Garanti Bank, and 3.1% for Akbank, respectively. There was significant difference between the bank preferences of the students ($\chi^2 = 13.72$, P=0,00).

Table 3 H When the students were asked how many different types of banks they used, 39.2% said they use only one bank card. Those who use two bank cards are 34.1% . 15.5% of the students use three different bank cards. 6.7% use four bank cards, 3.5% of them use five bank cards, and the rest use more than five bank cards.

Table 4 I 60.8 % of the students find the number of ATMs insufficient in university area while 39.2% of them find it sufficient. These results reveal that the students are not pleased with the ATM services of banks. According to the binomial distribution (Prop=0,50), half of the students are pleased. When the hypothesis was tested, the result was found significantly important (P=0,000).

Table 4 J 68.1% of the students believe that the stores in Diyarbakır do not make sufficient discounts regarding their responsibilities to their customers. Those who find the discounts in stores sufficient are just 12%. Those who have no idea are 20.0%. There are significant differences between these results as well ($\chi^2 = 9,0$ P=0,003).

Table 4 K When the students were asked the branch of which bank they desired in campus area of Dicle University, 32.2% of them said İş Bank, 23.7% said Ziraat Bank, and 13.8% said Vakıf Bank, respectively. The other branches of banks they desire is as follows: 8.9% for Yapı Kredi Bank, 8.2% for Garanti Bank, 7.8% for Akbank, and 5.5 % for other

bank branches. There are significant differences between the branches of banks that the students desire in campus area of the university ($\chi^2 = 18{,}66$,P=0,001).

Keskin and Koparan (2010), in their studies entitles "Factors that Determine the Credit Card Ownership of University Students", explain the factors that bring the credit card ownership of the students in the foreground with variables, such as gender of the student, student's age, level of class, the distance of hometown where the student's family reside to the university, average household income per month, the amount of the student's monthly expense, and where the student resides. Keskin and Koparan explain that the males have more credit cards than the females. This result is compatible with the results of our study.

The credit card preference of the students was taken as dependent variable. The variables that determined the credit and store card preferences were studied through Binary Logistic Regression. In our study, for the first stage, enter method of logistic regression analysis was used for all variables. The correct classification rate was found to be 84.5% at the end of the analysis. In the model equation, the variables that were found important were; mother's education level (x4), father's education level (x5), from whom they got financial support for covering their expenses (x6), average montly income (x7), residence (x8), what they thought on using credit cards while shopping (x12), which store card they used in shopping (x13), which bank card they used (x14), how many different bank cards they used (x15), what they thought on the number of automated teller machines in our university? (x16), the automated teller machine of which bank they would you like in campus area of our university (x18). These eleven variables were chosen for multi-variable regression analysis with p-value<0.25 (Hosmer and Lemeshov, 2000).

In the second stage of the analysis, backward selection method was applied starting from the dependent variable, "Do you use bank credit cards?". As a result, the correct classification rate was found to be 82.3% at the end of 12th step for the variables that were in the model. Five significant variables that explained the model equation were determined. Coefficients, standard errors, Wald statistics, p value levels related to the coefficients, odds ratio rates and 95% confidence intervals are given in Table 5.

When Table 5 was examined, five variables were found to be important through backward selection method in equation. These are: x4:Mother's education level, x12:What they thought on using credit card while shopping, x13:Which store card they used in shopping, x14:Which bank card they used, x16:What they thought on sufficiency of the number of automated teller machines in our university, respectively.

It is OR=2.092 times more for the students who use a bank card to find the number of automated teller machines in our university sufficient. CI 95% (1.78-3.69) , p=0.001.

The students, whose mothers are not literate, use credit card OR=2.364 times more. CI 95% (1.239-4.510), p=0.009. Those who find using credit card 'useful' have negative correlation, and their rate is OR=0.104 times more. CI 95%(0.056-0.195), p=0.000. The ones who find using credit card 'bad' have negative correlation and their rate is OR=0.058 times more. CI 95% (0.026-0.126), p=0.000. The rate of using credit card for the students who use the cards of Ziraat Bank is OR=13.227. CI 95% (4.340-40.310). That rate is OR=6.781 times more for the students who use the cards of Garanti Bank. CI 95% (3.41-13.481). The rate is OR=14.360 times more for the students who use the cards of İş Bank. CI 95% (5.003-41.241). The rate is OR=18.943 times more for the students who use the cards of Vakıf Bank. CI 95% (3.790-94.685).

(Keskin and Koparan, 2010) in their study which they conducted over 1395 students, have explained the mother's education level as follows: 76% of the mothers are graduates of primary school, 19% of them are graduates of high school, 3% of them are graduates of college, and 2% of them graduates of Bachelor Degrees. While the rate of mothers who are not literate is 41.7% in our study, in Keskin and Koparan's study they do not have such a kind of scale. While the rate of graduates of primary school is 32.8% in our study, this rate is 76% in their study, and while the rate of graduates of Bachelor Degrees is 6.9% in ours, it is 5% in theirs.

In the study which Oktay et al. (2009) dealt with the credit card ownership in the city of Erzurum, while %67 of the adults in the city center of Erzurum have credit cards, %33 of them do not have a credit card. Our study reveals that 288 (63.9%) of the student population do not own a credit card. On the other hand, the rate of those who own a credit card is 163 (36.1%). The student population uses credit card just at the rate of 53.1 % compared to the adults and the rest of the students do not use a credit card. The banks can continue their efforts in reaching all of the students. The rate of the students who use a credit card is similar to the rate of the adults who do not use a credit card.

(Gülmez,2010) found out that the average monthly income of the students of Faculty of Medicine and Faculty of Dentistry in Dicle University is lower than the average monthly income of the students studying in other parts of Turkey that have an average of 367$ (Universities in Sivas, Kayseri, and Yozgat) (p=0.01).

In the findings of the study conducted by Oktay et al (2009), according to the logit model established in order to find out the factors in credit card ownership, the variables are

job, average household income per month, payment method at shopping, the idea that credit card is useful and the idea that credit cards increase the shopping tendency (Oktay et al., 2009). These results have similarities with 'determining variables' in our study.

In our study that examines bank card using, dependent variable (y) is the binary level bank card using in the sampling. A logistic regression model was formed by taking seventeen independent variables. In enter method, in the variable 'X4' that was about mother's education level, 'not literate' and 'primary school' options were found significant while in the backward elimination method in 'X4:mother's education level' variable only 'not literate' option was found important.

Similarly in enter method 'X5: father's education level' variable was found significant. However, in the backward elimination method father's education level variable was not found important. In enter method, in the X6 variable that asked students from whom they got financial help to cover their expenses, 'foundations' option was found significant. X6 variable was not found important in backward selection method. In enter method, while the 'X7:What is your average monthly income?' and 'X8:Where do you reside in Diyarbakır?' variables were found significant, these variables were not found important in backward elimination method. 137 (30.4%) of the students answered, 'I find it useful' for one of the significant variables 'X12: What do you think on using bank cards while shopping?' while 184 (40.8%) of them said bank card using was bad. 130 (28.8%) students did not have any ideas on using bank cards. In the backward selection method, for one of the significant variables 'x13:Which store card do you use in shopping?'; 92 (20.4%) students said Carrefoursa, 70 (15.5%) students said Migros, and 35 (7.8%) students said Boyner. The number of those who do not use a store card is 254 (56.3%). For one of the other significant

variables ‘x14:Which bank card do you use?’, 150 (33.3%) students said Ziraat Bank, 29 (6.4%) students said Garanti Bank, 147 (32.6%) students said İş Bank, 39 (8.6%) students said Vakıfbank, 33 (7.3%) students said Yapı Kredi Bank, and 14 (3.2%) students said Akbank. 39 (8.6%) of the students said they did not use any bank cards. Finally, for the variable ‘X16: Do you think the number of automated teller machines is sufficient in the campus area of our university?’, 177 (39.2%) students said they found the number of them sufficient.

To see if all independent variables that were dealt with were meaningful, stepwise techniques were used for logistic regression. The meaningful variables that were taken to the model were chosen according to the ‘Wald Criterion’.

In the study of John et al. that researched for individuals’s attitudes of changing their bank cards, it is seen that the banks that want to have their place in the growing market have offered opportunities which seem to be for their customers but in fact that can be against their customers. Limits given up to the 3-4 times more than the customer’s income, possibility of having more than one bank card at the same time, payment facilities of the installments up to 24 months are arractive services given to the customers (John et al. 1995).

While 39.2% of our students use one bank card, 54.1% of them use two or more than two bank cards, and 6.7% of them do not use any cards. One of the researches related to the effects of bank cards on products and service charges was conducted by Interbank Research Organisation. In this research, prices for already determined products have been compared between the business places which accept bank cards and which do not.

In the similar study conducted by John and william, when examined from individuals’s point of view, it is seen that that there are many places where bank cards can be

used, that the image of the institution which provides the bank card is effective, that the facilities for shopping on internet with bank card are good and that the cards have high limits increase the individual's possibility of not changing his present bank card (John and William, 1995). In a research conducted by Federal Reserve System in the USA, it was found that bank cards have an effect of less than 1% on prices (Karacan, 1988).

Store cards provide two kinds of information to the retailers: Sales registration and customer profile. Cards provide various kinds of information about which products (brands) have been purchased, their amount, when they have been purchased alongside with the consumers's life styles and their consumption habits (Poloian, 2003).

In our study, distribution of the students who use market cards was tested through chi-square test. The difference was found significant (χ^2 =10.39 p=0.001). This finding is in parallel with the study conducted by (Albayrak and Aslan, 2009).

In a study conducted by Altunışık and Mert over 264 people in two shopping centers in İzmit , consumers said that they found the seventh important factor, 'easy use of credit cards', for preferring shopping centers among 13 different reasons that were explanatory (Altunışık and Mert, 2001). In store loyalty card applications, according to what kind of criteria the customers, the other side, prefer their store cards and what they expect from these cards is important. (Çabuk et al.,2006) in the study they conducted, found that the variables that effect supermarket customers's preference of store cards most are; 'the colour of the cards', 'the closeness of the store that the card belongs to', 'the image of the card' and 'carrying the card in wallet for prestige'. In other words, these variables are the most distinctive ones in store card preference.

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TABLES:

Table 1. Descriptive statistics

Age	21.15±2.04
Number of members in your family (..... person(s)	6.7±2.3
How much is your average monthly income? Where would you put 'X'?	275±105 $
Some Correlations	
$r_{Age,ME}$=-0,128, P=0,006 (age, mother's education)	
$r_{Age,FE}$=-0,161, P=0,001 (age, father's education)	
$r_{MIYF,ME}$=-0,475, P=0,000 (number of members in your family, mother's education)	
$r_{ME,FE}$= 0,616, P=0,000 (mother's education, father's education)	
$r_{MIYF,FE}$=-0,440, P=0,000 (number of members in your family, father's education)	

A- Descriptive statistics of mother's education level

Mother's education		Percentage	95% Confidence Interval	Cumulative Percentage
Not literate	(1)	41.7	0.37-0.46	41.7
Primary School	(2)	32.8	0.28-0.37	74.5
Secondary School		7.1	0.04-0.09	81.6
High School	(3)	11.5	0.09-0.14	93.1
College		6.9	0.04-0.09	100.0
Total		100.0		

$\chi_1^2 = 235.6, P = 0.000$, $\chi_2^2 = 141.4, P = 0.00$, $\chi_3^2 = 7.32, P = 0.02$

There are significant differences between mother's education sub groups; (1) Not literate, (2) Primary School, (3) High School, respectively.

B-Descriptive statistics of father's education level

Father's education		Percentage	95% Confidence Interval	Cumulative Percentage
Not literate		10	0.07-0.13	10.0
Primary School	(1)	32.4	0.28-0.37	42.4
Secondary School		12.4	0.09-0.15	54.8
High School	(3)	20.2	0.16-0.24	74.9
College	(2)	25.1	0.21-0.29	100.0
Total		100.0		

$\chi_1^2 = 75.90, P = 0.000$, $\chi_2^2 = 38.75, P = 0.00$, $\chi_3^2 = 18.03, P = 0.000$

There are significant differences betwen mother's education sub groups; (1) Primary School, (2)College, (3)High School, respectively.

Table 2. Descriptive statistics

C-Descriptive statistics of 'From whom do you get financial support for covering your expenses?'

I get financial support from …	Percentage	95% Confidence Interval	Cumulative Percentage
My family	21.7	0.18-0.26	21.7
Credit	40.8	0.36-0.45	62.5
Bursary (2)	31.3	0.27-0.36	93.8
All (1)	6.2	0.04-0.08	100.0
Total	100.0		

$\chi_1^2 = 117.73, P = 0.000$, $\chi_2^2 = 26.22, P = 0.00$.

There are significant differences between financial support sub groups; (1) All, (2) Bursary, respectively.

D- Descriptive statistics of 'Where do you reside in Diyarbakır?'

Where do you reside?	Percentage	95% Confidence Interval	Cumulative Percentage
With my family	43.7	0.39-0.48	43.7
In state dormitory (2)	15.3	0.12-0.19	59.0
In private dormitory (1)	3.3	0.02-05	62.3
With friends	37.7	0.33-0.42	100.0
Total	100.0		

$\chi_1^2 = 193.75, P = 0.000$, $\chi_2^2 = 62.65, P = 0.000$

There are significant differences betwen residence sub groups; (1)In private dormitory, (2) In state dormitory, respectively.

E- Descriptive statistics

Do you get credit?	Percentage	95% Confidence Interval	Cumulative Percentage
Yes	52.8	0.48-0.53	52.8
No	47.2	0.43-0.52	100.0
Binomial (Test Prop=0.50) P=0.258 Not significant			
Do you get a bursary?			
Yes	40.8	0.36-0.45	40.8
No	59.2	0.45-0.64	100.0
Binomial (Test Prop=0.50) P=0.000 Significant			
Do you use credit cards?			
Yes	36.1	0.32-0.41	36.1
No	63.9	0.59-0.68	100.0
Binomial (Test Prop=0.50) P=0.000 Significant			
What do you think on using credit cards while shopping?			
Useful	34.8	0.30-0.39	34.8
Bad	40.8	0.36-0.45	75.6
No idea (1)	24.4	0.20-0.28	100.0

$\chi_1^2 = 18.65, P = 0.000$ There are significant differences in sub groups.

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Table 3. Descriptive statistics

F- Descriptive statistics of 'Which store, supermarket, hypermarket card do you use?'

Store	P %	95% Confidence Interval	Cumulative Percentage
Migros (2)	15.5	0.12-0.19	15.5
Carrefoursa (1)	20.4	0.17-0.24	35.9
Boyner	7.8	0.05-0.10	43.7
YKM	2.2	0.00-0.04	45.9
Others	7.1	0.05-0.09	53.0
None	47.0	0.42-0.52	100.0

$\chi_1^2 = 43.12, P = 0.000$, $\chi_2^2 = 19.10, P = 0.00$ There are significant differences in sub groups; (1)Carrefoursa, (2)Migros, respectively.

G- Descriptive statistics of 'The bank card of which bank do you use?'

Bank	Percentage	95% Confidence Interval	Cumulative Percentage
Ziraat Bank (1)	33.3	0.29-0.38	33.3
İş Bank (2)	32.8	0.28-0.37	66.1
Vakıf Bank	08.6	0.06-0.11	74.7
Yapi Kredi Bank	07.3	0.05-0.10	82.0
Garanti Bank	06.4	0.04-0.09	88.4
Akbank (3)	03.1	0.02-0.05	91.4
None	08.7	0.06-0.11	100.0
Total	100.0		

$\chi_1^2 = 313.81, P = 0.000$, $\chi_2^2 = 232.710, P = 0.000$, $\chi_3^2 = 13.72, P = 0.008$

There are significant differences in sub groups; (1)Ziraat Bank,(2) İş Bank, (3) Akbank, respectively.

H- Descriptive statistics of 'How many different bank cards do you use?'

Bank Card	Percentage	95% Confidence Interval	Cumulative Percentage
None (4)	06.	0.04-0.09	06.7
One (1)	39.2	0.35-0.44	45.9
Two (2)	34.1	0.30-0.39	80.0
Three (3)	15.5	0.12-0.199	95.6
Four (5)	03.5	0.02-0.05	99.1
Five	0.004	0.001-0.01	99.6
Six	0.004	0.001-0.01	100
Total	100.0		

$\chi_1^2 = 497.46, P = 0.000$, $\chi_2^2 = 378.11, P = 0.000$, $\chi_3^2 = 132.67, P = 0.00$,

$\chi_4^2 = 43.12, P = 0.00$, $\chi_5^2 = 19.50, P = 0.000$

There are significant differences in sub groups; (1) One, (2)Two, (3) Three, (4) None, (5) Four, respectively.

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Table 4. Descriptive statistics.

I- Descriptive statistics of 'Do you think the number of ATMs in campus area of our university is sufficient?'

	Percentage	95% Confidence Interval	Cumulative Percentage
Sufficient	39.2	0.35-0.44	39.2
Insufficient	60.8	0.56-0.65	100.0

Binomial (Test Prop=0,50) (Based on Z Aproximation) P=0,000

J- Descriptive statistics of 'Are the **discounts** made in stores in Diyarbakır **sufficient** compared to other cities?'

Discounts made	Percentage	95% Confidence Interval	Cumulative Percentage
Sufficient	12.0	0.09-15	12.0
Insufficient (1)	68.1	0.64-0.72	80.0
No idea (2)	20.0	0.16-0.24	100.0
Total	100.0		

$\chi_1^2 = 249.21, P = 0.000$, $\chi_2^2 = 9.00, P = 0.003$

There are significant differences between sub groups; (1) Insufficient, (2) No idea, respectively.

K- Descriptive statistics of 'The branch of which bank would you like in campus area of our university?'

Branch of bank	Percentage	95% Confidence Interval	Cumulative Percentage
İş Bank (1)	32.2	0.28-0.36	32.2
Ziraat Bank (2)	23.7	0.29-0.28	55.9
Vakıf Bank (3)	13.8	0.11-0.17	69.6
Yapi Kredi Bank	8.9	0.06-0.12	78.5
Garanti Bank	8.2	0.06-0.11	86.7
Akbank	7.8	0.05-0.10	94.5
Others	5.5		100.0
Total	100.0		

$\chi_1^2 = 187.49, P = 0.000$, $\chi_2^2 = 88.35, P = 0.000$, $\chi_3^2 = 18.66, P = 0.001$

There are significant differences between sub groups of 'The branch of which bank would you like in campus area of our university?', as (1) İş bank, (2)Ziraat, (3) Vakıf, respectively.

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Table 5. Logistic Regression Analysis Results through Backward Selection Method

Variable	B	Standard Error	Wald	p	Exp (B)	95% Confidence Interval	
						Lower	Upper
X4			10.331	0.035			
X4(1)	0.86	0.33	6.813	0.009	2.364	1.239	4.510
X12			70.055	0.000			
X12(1)	-2.259	0.318	50.602	0.000	0.104	0.056	0.195
X12(2)	-2.853	0.400	50.877	0.000	0.058	0.026	0.126
X13			15.357	0.009			
X13(5)	-0.827	0.410	4.064	0.04	0.438	0.196	0.977
X14			49.943	0.000			
X14(1)	2.582	0.569	20.626	0.000	13.227	4.340	40.310
X14(2)	1.914	0.351	29.810	0.000	6.781	3.411	13.481
X14(3)	2.664	0.538	24.534	0.000	14.360	5.003	41.241
X14(6)	2.941	0.821	12.836	0.000	18.943	3.790	94.685
X16(1)	0.738	0.291	6.460	0.001	2.092	1.784	3.698

Conclusion

As a result, 60.8% of our students find the number of automated teller machines on our campus insufficient. In addition, with a rate of 68%, they find the discounts made in the stores in Diyarbakır not sufficient. The bank branch that the students want most in the campus area of the university is İş Bank (32.2%) but this bank does not have any branches in the campus area. If the university administration signs a contract with more than one bank in campus area, the students may use more than one bank card. Increasing the number of bank branches will be a big facility. The negative effect of religious belief, like poverty, in penetration of bank card should be considered. There should be some approaches that banks and stores can develop together. Particularly in world universities, foundations of philosophy of giving credit to students without interest and opportunity of using credit in certain amounts should be set up. This opportunity and novelty can be initiated with the support and economic

finance of Islamic countries. The foundations of a new sustainable development policy can be set up in the world. Environmental sustainability can lead to the professionalism and give the opportunity of studying considering world students first. Consumption formats should provide university-like sectors with economic measurement ways. Ministries of Education of Islamic countries (of other religions as well) can take up 'social responsibilities' institutionally. Aiming the good use of human sources, risks ought to be taken in universities. Authorities ought to adopt this and support it.

References

1-Albayrak M, Aslan Z (2009). A comparative study of consumer preferences for manufacturer or private labelled food products. African Journal of Business Management., 3(11):764-772.

2- Alexandris K, Dimitriadis N, Markata D (2002). Can perceptions of service quality predict behavioral intentions? An exploratory study in the hotel sector in Greece. Managing Service Quality.,12 (4): 224-231.

3- Alhassan GAM, Yakubu AU (2007). Credit card ownership and usage behaviour in Saudi Arabia: The impact of demographics and attitudes toward debt. Journal of Financial Services Marketing.,12: 219–234.

4- Ali I, Rehman UK, Yılmaz AK, Nazir S, Ali JF (2010). Effects of corporate social responsibility on consumer retention in cellular industry of Pakistan, African Journal of Business Management., 4(4): 475-485.

5- Altunışık R, Mert K (2001). A Field Study on Attitudes of Consumers in Shopping Centers: Are the Consumers Losing Control? 6th National Marketing Congress, 28 June-1 July, Erzurum, 145-152.

6- Başarır G (1990). Problem of Discrimination in Multivariable Data and Logistic Regression Analysis, Hacettepe University Institute of Social Sciences Phd Thesis.

7-Cengiz E (2009). Fırat University Journal of Social Science.,19(2):179-196.

8- Çabuk S, Orel F, Güler E (2006). A research that aims to find out the variables that effect the store card preferences of supermarket customers most, Journal of Çukurova University Institute of Social Sciences., 15(2):81-94.

9- Durukan T, Elibol H, Özhavzalı M (2005). A Study on Measuring the Effect of Installment Payment through Credit Cards on Spending Habits of Consumers (Example of the City of Kırıkkale) Journal of Social Sciences, University of Selçuk., 13:143-153.

10- Evans DS (2004). The Growth and Diffusion of Credits Card in Society. Payment Card Economics Rewiew., 2: 59-76.

11-Gülmez M (2010). How Much Do University Students Know About Using Credit Cards? http://www.isteinsan.com.tr/haberler/universiteliler_kredi_kartini_kullanmayi_ne_kadar_biliyor.html

12-Harrison P, Shaw R (2004). Consumer satisfaction and post-purchase intentions: an exploratory study of museum visitors. Int. J. Arts Manage., 6(2): 23-32.

13- Hosmer DW, Lemeshow S (2000). Applied logistic regression 2nd ed. New York, John Wiley & Sons.

14-John VD, William C (1995). Whitesell, "Credit Cards and Money Demand; A Cross Sectional Study" Journal of Money Credit and Banking., 27(9):604-623.

15-Kalaycı Ş (2008). SPSS Applied Multi-variable Statistical Techniques. Asıl Publications, Ltd.Şti.

16-Karacan AI (1988). "Developments in Payment System", World Economy and Politics Newspaper.,75(7).

17-Keskin HD, Koparan E (2010). Factors that Determine the Credit Card Ownership of University Students. Eskişehir Osmangazi University Journal of Economics and Administrative Sciences., (1):111-129.

18- Oktay E, Özen Ü, Alkan Ö (2009). Factors that Have Impact on Credit Card Ownership in the City of Erzurum. Dokuz Eylül University Journal of Economics and Administrative Sciences., 24(2):1-22.

19- Oliver RL (1999). Whence consumer loyalty? J. Market. 63 (Special Issue): 33–44.

20- Poloian LG (2003). Retailing Principles, Fairchild Publications Inc., USA. P:406.

21- Ryals L, Payne A (2001). Customer Relationship Management In Financial Services: Towards Information-Enabled Relationship Marketing. 9:3-27.

22-Savaşçı İ, Tatlıdil R (2010). The Effect of Customer Relationship Management (CRM) Strategy, which is Applied by the Banks in Credit Card Market, on Customer Loyalty. Ege University Faculty of Economics and Administrative Sciences, Journal of Business Administration. Received (In revised form) 13 th August

23-Wood M (2005). Discretionary unplanned buying in consumer society. Journal of Consumer Behaviour., 4(4):268-281.

24- Yu CJ, Wu L, Chiao Y, Tai H (2005). Perceived quality, customer satisfaction, and customer loyalty: the case of lexus in Taiwan, Total Quality Manage. Bus. Excellence.,16 (6):707 - 719.

25- Zhang J (2009). The effect of advertising appels in activating-selfconstructruals. Journal of Advertising., 38(1): 63-81.

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SURVEY FORM

1. Age : **……** **2.** Gender: Male (1) Female (0)

3. Number of members in your family (..... person(s))

4. Education Level:

	Not literate	Primary School	Secondary School	High School	College
Mother's:	(1)	(2)	(3)	(4)	(5)
5. Father's :	(1)	(2)	(3)	(4)	(5)

6. From whom do you get financial support for covering your expenses?

(1) My family (2) Foundations (3) Credit (4) Bursary (5) All

7. How much is your average monthly income? Where would you put **'X'**?

Up to 150TL(75 euros)	151-250 TL (75-125 euros)	251-350 TL (125-175 euros)	351-450 TL (175-225 euros)	451-550 TL (225-275 euros)	551 TL and more (275 euros and more)
1	**2**	**3**	**4**	**5**	**6**

8. Where do you reside in Diyarbakır?

(1) With my family (2) In state dormitory (3) In private dormitory (4) With friends

9. Do you get credit? ( ) Yes ( ) No

10. Do you get a bursary? ( ) Yes ( ) No

11. Do you use credit cards? (1) Yes (0) No

12. What do you think on using credit cards while shopping? (1) Useful (2) Bad (3) No idea

13. Which **store card** do you use?

(1) Migros (2) Carrefoursa (3) Boyner (4) YKM (5) Others (6) None

14. The bank card of which bank do you use?

Ziraat Bank	Garanti Bank	İş Bank	Yapı Kredi Bank	Akbank	Vakıfbank	Others	None
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**

15. How many different bank cards do you use? (……..)

16. Do you think the number of ATMs in campus area of our university is sufficient? (1) Sufficient (0) Insufficient

17. Are the **discounts** made in stores in Diyarbakır **sufficient** compared to other cities? (1) Sufficient (2) Insufficient (3) No idea

18. The branch of which bank would you like in campus area of our university?

Ziraat Bank	Garanti Bank	İş Bank	Yapı Kredi Bank	Akbank	Vakıfbank	Others
1	**2**	**3**	**4**	**5**	**6**	**7**