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Research Paper Economics

# A Discriminant Analysis on Demographic Factors and Satisfaction Level of Credit Card Users in Coimbatore City

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**ABSTRACT**

*Nowadays, banks are seeking alternative ways to provide and differentiate amongst their varied services. Customers, both corporate as well as retail, are no longer willing to queue in banks, or wait on the phone, for the most basic of services. In this context, a micro level study assumes immense significance to assess the customer's reactions towards credit cards services with the following objectives, to study the Socio-Economic profile of Credit card users in Coimbatore city; to analyze customer satisfaction about various in credit card services. The primary data was collected from 50 respondents during January to February 2012 and it was tabulated and analyzed by using Chi-square Test, Discriminant Analysis. The findings of the study show that the credit card users were persons with maturity, belonging to high income groups and involved in business activities.*

**KEYWORDS: Credit Card, Customers, Satisfaction**

## Introduction

Science and technology is changing the way financial institutions perform their transactions. Today's banks are shaken by these technological changes. But a new technology brings with it not only the potential for success but also a never-ending series of questions regarding its design, its value to its users, ultimate use and acceptability. Nowadays, banks are seeking alternative ways to provide and differentiate amongst their varied services. Customers, both corporate as well as retail, are no longer willing to queue in banks, or wait on the phone, for the most basic of services. They demand and expect to be able to transact their financial dealings where and when they wish to. In 1951, Diners Club issued the first credit card to 200 customers who could use it at 27 restaurants in New York. But it was only until the establishment of standards for the magnetic strip in 1970 that the credit card became part of the information age.

## Role of Credit Cards

The credit card business is one of the most competitive markets in the world, and the intense competition pressures credit card issuers to develop and market innovative new products. The rise in credit card activities within in the financial services industry has been accompanied by increased regulatory oversight because these activities can pose a variety of substantial risks to banks.

## Credit Card Scenario in India

Credit Cards are accepted for payments widely in all the cities located in all four directions of India. It facilitates the payment system that makes the entire buying and selling process very convenient. Through the credit card payment service, Indian companies are able sell their exclusive products not only in Indian market but also in the international market. In order to put the online credit card service in action, Indian businessman only needs good credit card processing service and then they can easily incorporate this amazing service in their business functioning. In this context, a micro level study assumes immense significance to assess the customer's reactions towards credit cards services with the following objectives;

- To study the Socio-Economic profile of Credit card users in Coimbatore city.
- To analyze customer satisfaction about various credit card services.

## Review of Literature

Vathsala Wickramasinghe and Anurudh Gurugamage (2012) studied the effects of social demographic attributes, knowledge about credit cards and perceived lifestyle outcomes on credit card usage. The study identified the effects of credit card users' demographic and socio-economic characteristics, knowledge about credit cards, and perceived lifestyle outcomes of the credit card usage on credit card usage practices. Primary data was collected from 177 individuals in Sri Lanka who possess Visa, MasterCard or American Express credit cards responded to the survey. The hypothesized relationships were examined by means of path analysis. The findings offer implications for research and practice.

James A. Roberts and Eli Jones (2001) conducted a study on "Money Attitudes, Credit Card Use, and Compulsive Buying among American College Students". The study suggested that the money attitudes played a power, prestige, distrust, and anxiety are closely related to compulsive buying and that credit card use often moderates these relationships.

Black et al. (2002), examined Consumers' channel choice in financial services was determined by consumer characteristics, product characteristics, channel characteristics and organizational characteristics, out of which product channel interactions and consumer channel interactions were of particular importance.

## Methodology

The study was based on primary data which was collected with the help of well structured and pre-tested interview schedule, administered to 50 Credit card users during the period from January 2012 to February 2012. The data collected was tabulated and analyzed by using Chi-square Test, Discriminant Analysis.

## Findings of the Study

The socio-economic background of the respondents is given in the following Table 1.

**Table- 1**
**Socio-Economic Profile of the Respondents**

| Socio-Economic Factors | Characteristics | Frequency | Percentage |
|---|---|---|---|
| Gender | Male | 34 | 68 |
| | Female | 16 | 32 |
| Age | 15-30 | 17 | 34 |
| | 31-45 | 22 | 44 |
| | Above-45 | 11 | 22 |
| Marital Status | Unmarried | 17 | 34 |
| | Married | 33 | 66 |
| Educational Status | Higher secondary | 12 | 24 |
| | Degree | 21 | 42 |
| | Professional | 17 | 34 |
| Occupational status | Traders/business | 16 | 32 |
| | Professional | 9 | 18 |
| | Service | 14 | 28 |
| | Self employed | 11 | 22 |
| Monthly Income | Less than Rs. 10,000 | 8 | 16 |
| | Rs. 10,000- Rs. 20,000 | 17 | 34 |
| | Above – Rs. 20,000 | 25 | 50 |
| Total | | 50 | 100 |

Source: Field Survey

In the above table 1.1 indicates that one third of women seem to be using credit cards. There was a whopping proportion of (44%) in the age 31 to 45 years; use credit card to very great level as most of them

are either business people or those engaged in service sector. Majority of them (66%) were married. All the respondents were educated and hence the credit card usage is high among the educated group. Sixteen people were involved in business and all of them make use of the credit card for their business activity. Half of the total respondents (50 per cent) get an income in the range of above Rs.20,000/- per month. The study reveals that majority of them use their credit card, to buy consumable goods.

**Discriminant Analysis**

Discriminant analysis was used to identify the variables that distinguish the satisfaction level of credit users. The classification of the respondents was done on the basis of the usage of credit card services. The first group consisted of those respondents who were using credit card services while the second group consisted of all those who are not satisfied with credit card services. The usage of credit card service was hypothesized to be function of the sex of the respondents(S), age (A), educational status (E), occupation (OCC) and monthly income (Y).

Table- 2 shows the group means, Wilks' Lambda and univariate F ratio for each independent variable. The group means besides profiling the two groups, also identifies the variables with largest differences in the group means. The Wilks' Lambda and univariate ANOVA is used to identify the variables with the largest differences in the group means.

**TABLE-2**
**GROUP DESCRIPTIVE STATISTICS AND TEST OF EQUALITY OF GROUP MEANS**

| Variables Group | Sex | Age | Education | Occupation | Income |
|---|---|---|---|---|---|
| | Group means for the independent variables | | | | |
| Yes | 1.2759 | 30.0690 | 2.9655 | 3.0690 | 2.5172 |
| No | 34.5714 | 9.02351 | 1.14900 | 3.0476 | 11.9221 |
| | Standard deviation for the independent variables | | | | |
| Yes | 45.486 | 9.02351 | 1.14900 | 1.09971 | 2.4905 |
| No | 11.2808 | 49761 | .87014 | 1.20317 | 13.045 |
| | Test for equality of the group means | | | | |
| Wilks' Lambda | 0.923 | 0.952 | 0.963 | 0.987 | 1.000 |
| F – ratio | 3.598 | 10.841 | 4.484 | 1.384 | 0.070 |
| Significance level | .068 | .021 | .035 | 0.45 | .791 |

From the table-2, it is evident that of the five variables introduced to distinguish satisfaction level of credit holders from the respondents who do not prefer the credit card services only three variables namely age, education, and monthly income showed significant univariate differences between the two groups. The remaining variables namely sex and occupational status did not emerge as significant factors.

Based on the above group means and standard deviation, the standardized canonical Discriminant function which represents a linear composite of the original data variability to within group's variability was estimated as follows:

Z= 0.231S+0.867A+ 0.375E +0.5384 Occ -0.20Y Income.

Wilk's Lambda = 0.845

Chi-square value = 10.965*

Eigen value = 0.048

Canonical correlation = 0.274

(* significant at 5 percent level)

In the above function the variables sex, age, education and occupation had positive sign indicating that these variables had higher discriminating powers between groups. The variable monthly income had a negative sign implying that this variable acted as a suppressor variable. The Wilk's Lambda and Chi-Square value indicated that the function was significant at 5 percent level. The canonical correlation associated with the Discriminant function was 0.274 implying that nearly 20 percent of the variation in the dependent variable was associated by this model.

The relative importance of each independent variable in discriminating between the groups was assessed in terms of their factor loadings and is shown in table-3.

**Table- 3**
**Discriminant Loading & Potency Index for the Selected Variables**

| Independent variables | Factor loading | Potency index | Rank |
|---|---|---|---|
| **Age** | .860 | 0.7396 | 1 |
| **Sex** | .071 | 0.0504 | 5 |
| **Education** | .438 | 0.1918 | 3 |
| **Occupation** | 0.28 | 0.0784 | 4 |
| **Monthly Income** | .530 | 0.2809 | 2 |

While evaluating the variables on the basis of their factor loadings, any factor is considered to be a substantive discriminator if the factor loading is either equal to or greater than ± 0.30. Evaluating the factor loadings on the basis of the above criterion, the variables that distinguish e-banking users from that of manual banking were age, occupation and monthly income. Of these variables, age accounted for nearly 74 percent of the variation, followed by monthly income (28 percent) and education (20 percent). Thus, the credit card users were persons with maturity, belonging to high income groups and involved in business activities. The validity of the above discriminating function was evaluated at group centroids (group means) and the results are shown in the table -4.

**TABLE-4 CLASSIFICATION RESULTS**

| Groups | Predicted Group membership | | Total |
|---|---|---|---|
| | Yes | No | |
| Yes | 62.1 | 37.9 | 100 |
| No | 38.1 | 61.9 | 100 |

The classification accuracy percentage of the Discriminant function for the sample group was 62 percent. Thus the Discriminant function was quite efficient in classifying respondents into using credit card services.

**Chi-Square Analysis**

In order to investigate the relationship between level of satisfaction of credit card users and demographic profile (gender, age, education, occupation and monthly income) of the credit cards users. Pearson's chi-square test was done. The null hypothesis framed was:

Ho: The level of satisfaction is independent of the demographic profile of the respondents

Ha : The level of satisfaction is dependent of the demographic profile of the respondents.

**Table-5 Relationship between the Level of Satisfaction of Changing Cards and Demographic Profile**

| Variable | Chi-square value | Degrees of freedom | Asymptotic significance | Inferences |
|---|---|---|---|---|
| Sex | 1.389 | 3 | .258 | Accept Ho |
| Age | 2.504 | 12 | .726 | Accept Ho |
| Education | 15.366 | 15 | .025 | Reject Ho |
| Occupation | 17.887 | 16 | .016 | Reject Ho |
| Monthly income | 12.721 | 16 | .437 | Accept H |

The study found no significant association between the level of satisfaction of changing cards and sex age and monthly income of the respondents. However education and occupation were found to have significant association with the level of satisfaction in changing the credit

cards services. This implies that the respondents with higher education and positions have satisfaction in changing the credit card services.

**CONCLUSION**

Technology, today, has become a strategic and integral part of banking diving them to acquire and implement world-class systems that enable them to provide products and services at competitive cost with better risk management deliver customized products through multiple channels, allowing customer's access to the bank continuously without any hindrances of security, reluctance to overcome by adopting concerned strategies.

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