

## CUSTOMER SATISFACTION TOWARDS CREDIT CARD: AN EMPIRICAL EVIDENCE

**Dr. Deepak Kumar**

Asst. Professor, DAV Institute of Management, NIT-3 Faridabad, [25sharmadeepak@gmail.com](mailto:25sharmadeepak@gmail.com)

**Dr Jaideep Sharma**

Associate Professor, Galgotias University, Greater Noida,  
[aideep.sharma@galgotiasuniversity.edu.in](mailto:aideep.sharma@galgotiasuniversity.edu.in)

**Dr Md. Chand Rashid**

Professor - Marketing, Galgotias University, Greater Noida,  
[mdchand.rashid@galgotiasuniversity.edu.in](mailto:mdchand.rashid@galgotiasuniversity.edu.in)

**Dr Mujibur Rahman**

Associate Professor, Galgotias University, Greater Noida,  
[mujibur.rahman@galgotiasuniversity.edu.in](mailto:mujibur.rahman@galgotiasuniversity.edu.in)

### Abstract

India's banking system has shifted the banks' from a brick strategy to a click strategy. Any transaction can be done just with a click because of technology advancement. Credit card is the payment instrument of the modern world and called as the plastic money. It is a modern payment instrument for consumers to benefit from prestige, short-term cash credit, not needing to carry money, opportunity for instalment shopping and late payment advantage. The objective of the proposed paper is to study the customer's satisfaction after using credit card services provided by various banks operating in four administrative division of Haryana (Gurgaon, Rohtak, Hisar & Ambala) and Delhi. To achieve the objective of the study primary data was collected through a structured questionnaire from the respondents using credit cards (public, private and foreign banks). In total 750 respondents were studied with the help of a convenience sampling method. To analyze the collected data SPSS version 19 was used. The various statistical techniques used for analysis and achieve the objectives of the study are frequency distribution along with percentages, mean, and standard deviation. To test the null hypothesis parametric test such as t-test and ANOVA were used. The major findings of the study reflected that customers are most frequently used their credit card for "Shopping online", "Pay your utility bills", "Fuelling up your vehicle" and "Railway/air ticket/other ticket bookings". Further study concluded that customers are highly satisfied by credit card because of "Promptness of delivery", "Usefulness of credit card", "Information provided to you while purchasing credit card" and "Online shopping facility by credit card". Demographic variables "occupation", "annual income", "sector of the bank" and "place of residence" have significant and differentiated impact on satisfaction level of customers. The study provides various factors and meaningful direction to bank management and decision maker to overcome their weaknesses and formulate some strategies for higher customer satisfaction.

Key Words: Credit Card, Technology, Instrument, Plastic etc.

## 1. Introduction

Credit card is a laminated plastic card issued by a banks or non-banking financial companies giving the credit card holder a preference to borrow funds on a short term basis. The bank or NBFC issuing credit card impose an interest for lending short term finance to the credit card holder. Credit card holders can buy goods and services from merchants, traders and other parties based on the credit sanctioned to the credit card shall be used with a prescribed credit limit. By using credit card, customer promise for the repayment of credit card transactions executed by them. Generally credit card holders are given a credit period of 30-45 days for all purchases made by them. If repayments are not made within the stipulated period interest is collected at the agreed date **(Govindarajan K., Anand Vijay V. and Balachandran S., 2012)**.

It is equivalent to the loan sanctioned by the bank to its customers on the principle of “Use First and Pay Later” up to the specified amount of credit as per the agreed terms of sanction. Nowadays they put their trust in the innovation of credit cards where they need not carry large sums of money with them to make payments without batting an eye. The credit card holder is empowered wherever and whenever he wants with his credit card within the limits fixed by the bank. Credit card is also called post paid card **(Selvi D. V., 2012)**.

Online shopping has become an integral part of our life. In era of plastic cards with rapid advancement of electronic commerce, the credit card has become convenient and de facto standard for online shopping **(Kaneri A. et. al. 2018)**.

It is a tool for consumers to benefit from prestige, short-term cash credit, not needing to carry money, opportunity for instalment shopping and late payment advantage. Widespreading of instalment applications on credit cards continuously changes the consumer behaviour having a dynamic structure **(Onder, K. (2018)**.

Today use of Credit Card even in developing countries has become a common scenario. People use it to shop, pay bills and for online transactions. But with increase in number of Credit Card users, the cases of fraud in Credit Card have also been on rise. Credit Card related frauds cause globally a loss of billions of dollars **(Jain Y., Tiwari N., Dubey S., Jain S., 2019)**.

Currently credit card is more popular among the private and public employees. The fraudster is detecting the details of the behaviour user transaction and doing the illegal activities with the card by phishing, Trojan virus, etc. The fraudulent may threaten the users on their sensitive information **(S. P. Devika, K. S. Nisarga, Rao P. Gagana, S. B. Chandini, N. Rajkumar, 2019)**.

## 2. Review of Literature

Some of the studies especially related to credit cards are considered as follows:

**Patel J. (2019)** conducted a study on customer satisfaction towards credit cards in Ahmedabad’ India. Total 300 samples were collected from Ahmedabad city. The study found that many bank customers don’t have knowledge about credit card; how credit card is used and what is the benefit

of the credit card. They want banks should arrange seminars/ conferences for customers' awareness. Customers showed disagreement to use credit card because of high interest rates and security risk.

**Prabhu M. (2018)** investigated reasons and challenges encountered by Credit Cardholders for using credit cards in the Madurai City India. The study was based on total 150 credit cardholders. The study found that 'reward points or cash back' and 'benefit of the extended payment period' were main reasons which motivate them to use credit card. Further study revealed that customer satisfaction are highly satisfied by website of the bank, efficiency of the bank, competency of the bank and information provided by the bank.

**Nagaraju K. (2017)** made an attempt to understand consumer awareness and perception about credit cards. The study was primary data study and revealed that many card holders surrendered their credit cards. The credit card helps them to have credit facility, then avoid carrying cash and enables withdrawal of cash through ATM.

**Vimala V. (2014)** made an attempt to provide a platform to understand the evaluation and the impact of credit card on the selected HDFC Bank customers of Shimoga District, India. The researcher also studied the awareness level, usage of new innovative services and its beneficial impact on the financial System. The sample was consisting of 100 respondents. Researcher investigated the new emerging challenges in infrastructural development, its opportunities, issues and policies in credit card services and upgrade technical know-how in the banking sector; with special reference to HDFC Banks provided maximum benefits to the bank customers. The plastic money efficient services and credit card development in Shimoga district contributed significantly to the banking development of the country.

**Deviranjitham S. and Thamilarasan S. (2014)** had made an attempt to study the awareness, perception and satisfaction by credit cards of the customers in Krishnagiri district, India. It was further concluded that there was a number of bank customers, who do not have any knowledge about credit cards. Many people have knowledge about credit cards, but do not possess credit cards because of the fear of falling into debt trap. High income earners and highly educated class use credit cards more, availing high credit limits. Customers' satisfaction was found less because of high rate of interest charged by banks.

**Kumar S. (2013)** made an attempt at empirical investigation of how credit card consumers respond to, and revealed their attitudes towards credit cards. The sample size was 165 respondents holding credit card. Consumers satisfied with the use of their credit cards. The information regarding the credit card terms such as repayment, finance charges, fees and charges was found more important to the consumers. On the whole, credit card users appeared that credit cards are useful, and that consumers are better off with credit cards than without them.

**Govindarajan K., Anand V. V. and Balachandran S. (2012)** conducted study and found that respondents were highly happy about the security check and support extended by the credit card department in compelling them to avail loan, further owing a credit card is considered as status symbol by the respondents and they don't give much value for the bonus points assigned by the credit card division.

**Selvi D. V. (2012)** studied IT enabled banking services by Indian banking industry by taking computerization of banks, reach of ATMs area wise, bank wise, location wise and the usage of debit cards and credit cards. The study was fully secondary database study and found that there is a tremendous growth of technological applications in the banking sector except in the usage of credit cards.

### **3. Research Methodology**

#### **3.1 Rationale of the Study**

The present research will be unique study and is likely to bring fruitful results in terms of information connected with Credit card services. Credit card banking services have made the banking services available to their irrespective of the location where he/she is. The biggest issue is that how the customer is responding to credit card services.

The study is both Exploratory and Descriptive. The objective of exploratory research is to gather preliminary information that will help define various transactions by using credit card service and suggest hypothesis. The objective of descriptive research is to describe things, such as the market potential for credit card service or the demographic and attitudes of consumers who are using credit card services. At the same time, it also attempts to examine the customer's satisfaction level while credit card services.

#### **3.2 Objectives of the Study**

In the review of literature, the researchers made an attempt to identify the various research gaps prevailing in the scope of study and some areas where strategies are required. An analysis of the research gaps puts forth research questions. These questions, however, are important to take the discussion to further level and may also help in identifying the research objectives of the present research study; following are the objectives of the study:

1. To study the satisfaction level of the customers while using credit card services provided by banks operated in four administrative division of Haryana (Gurgaon, Rohtak, Hisar & Ambala) and Delhi.
2. To explore the relationship between demographic variables and satisfaction level of the users while using credit card services provided by various banks.
3. To suggest suitable strategies to the banks for improvement in customer's satisfaction.

#### **3.3 Hypotheses**

To achieve the aforesaid objectives, the proposed study intends to test the following null hypotheses:

H<sub>0,1</sub> Customers Satisfaction towards Credit Card services does not differ significantly on the basis of "Gender" of the respondents.

H<sub>0,2</sub> Customers Satisfaction towards Credit Card services does not differ significantly on the basis of "Marital Status" of the respondents.

H<sub>0,3</sub> Customers Satisfaction towards Credit Card services does not differ significantly on the basis of "Occupation" of the respondents.

H<sub>0.4</sub> Customers Satisfaction towards Credit Card services does not differ significantly on the basis of “Annual Income” of the respondents.

H<sub>0.5</sub> Customers Satisfaction towards Credit Card services does not differ significantly on the basis of “Level of Education” of the respondents.

H<sub>0.6</sub> Customers Satisfaction towards Credit Card services does not differ significantly on the basis of “Sector of the Bank” of the respondents.

H<sub>0.7</sub> Customers Satisfaction towards Credit Card services does not differ significantly on the basis of “Age Group” of the respondents.

H<sub>0.8</sub> Customers Satisfaction towards Credit Card services does not differ significantly on the basis of “Place of Residence” of the respondents.

### **3.4 Research Design**

#### **3.4.1 Data Collection**

To achieve the above mentioned objectives primary data was required and for it questionnaire method was used. To prepare a structured questionnaire various banks website related to credit card services options were surfed. Apart from it various research papers have been studied, which have included the dimensions of Credit Card services. The respondents were asked to indicate their response regarding various aspects of the credit card services on a five point Likert scale.

#### **3.4.2 Developing Research Questionnaire**

To develop the research questionnaire various related research paper were studied and various bank websites were surfed. A pilot survey was conducted in Gurgaon and Delhi. As an outcome of the pilot study some of the questions and statements were amended and improved and few questions were added while few options were modified, so that perceptual difference could be avoided as much as possible.

#### **3.4.3 Sampling Design and Sample Size**

The population of study comprised of the users of credit card residing in Haryana and Delhi. To achieve the objectives of the study, Delhi and four administrative divisions of Haryana were selected to conduct survey for sampling. Four administrative divisions of Haryana are (i) Hisar division, (ii) Rohtak division, (iii) Ambala division and (iv) Gurgaon division. To collect information from sample selected, a stratified convenience sampling method was adopted. Study considered total 750 respondents; out of which 600 were surveyed from four administrative divisions of Haryana (150 from each administrative divisions) and 150 respondents were from Delhi. Further the study also considered sector wise representation i.e. public, private and foreign sector banks.

The determination of sample size is based on **(Smith, M. F. 1983)**. As our population is infinite and in infinite population total 600 respondents are considered sufficient to generalize the results. Hence here in total 750 respondents were considered to achieve the objectives of the study.

#### **3.4.4 Data Analyses/Statistical tools & Techniques**

**The collected data further have been analyzed by using descriptive statistics such as frequency distribution, percentages, mean scores and standard deviation. To find out the**

variation of opinion among various categories t test and F test have been applied by using statistical software SPSS version 19 for windows.

#### 4 Results and Discussion

##### 4.1 Usage of Specialized Services/Transactions of Credit Card

Table 1.1 showing the responses of customers regarding various specialized services/Transactions through credit cards and variation with the help of overall mean values, their respective ranks (lesser the mean higher the rank) and standard deviation (S.D.). The responses were obtained on 11 related statements of credit card transaction services on a five point scale (ranging between 1 to 5, where 1 stands for ‘very often’, 2 for ‘often’, 3 for ‘sometimes’, 4 for ‘rarely’ and 5 for ‘never’). On the basis of the responses given by credit card users first rank is attained by ‘shopping online’ (T 4) as in total 46 percent of the users’ of credit card are often using this transaction service, whereas 48.4 percent users agreed that they often ‘pay their utility bills’ (T 1) by credit card. Further as depicted by the table in total 43.4 percent of the respondents often use credit card transaction service for ‘fueling up your vehicle’ (T 6), while 46.3 percent of credit card users agreed that they often use credit card for ‘railway/air ticket/other ticket bookings’ (T 8). On the other hand 77.9 percent of the respondents strongly denied to use credit card transaction ‘payment of donation/charity’ (T 3) as only 22.1 percent of the respondents are in favor to use this transaction by credit card. So it can be concluded that people use various services through credit card for their normal and useful activities.

After discussing frequency distribution, the present paragraph is an attempt to provide the detail of overall mean values and accordingly their respective ranks. The respondents admitted that transactions namely ‘shopping online’ ( $\bar{x}$  =2.72), ‘pay your utility bills’ ( $\bar{x}$  =2.73) and ‘fuelling up your vehicle’ ( $\bar{x}$  =2.89) are major transaction services which are preferred by respondents on first, second and third position respectively.

Here it can be also analyzed from the table that the overall mean values of these above transaction services ranging between ( $\bar{x}$  =2.72 to  $\bar{x}$  =3.96) explain that most of the respondents use credit card transaction oftenly and some services are used rarely by them. Here the presence of standard deviation describing the different preferences about these credit card transaction services as its value is more than one in all the specialized services/transactions.

**Table 1.1: Frequency Distribution of Specialized Services/Transactions of Credit Card**

Sr. No.	Specialized Services / Transactions	1	2	3	4	5	Mean (S. D.)	Rank
1	Pay your utility bills (T 1)	131 (17.5)	232 (30.9)	156 (20.8)	165 (22.0)	66 (8.8)	<b>2.73</b> <b>(1.23)</b>	2
2	Recharge your prepaid mobile card (T 2)	41 (5.5)	103 (13.7)	56 (7.5)	329 (43.9)	221 (29.5)	<b>3.78</b> <b>(1.16)</b>	10
3	Payment of donation/charity (T 3)	33 (4.4)	66 (8.8)	67 (8.9)	311 (41.5)	273 (36.4)	<b>3.96</b> <b>(1.09)</b>	11
4	Shopping online (T 4)	131	214	208	121	76	<b>2.72</b>	1

		(17.5)	(28.5)	(27.7)	(16.1)	(10.1)	<b>(1.21)</b>	
5	Shopping at merchant establishment/expenses (T 5)	119 (15.9)	196 (26.1)	146 (19.5)	157 (20.9)	132 (17.6)	<b>2.98</b> <b>(1.34)</b>	5
6	Fuelling up your vehicle (T 6)	143 (19.1)	182 (24.3)	154 (20.5)	151 (20.1)	120 (16.0)	<b>2.89</b> <b>(1.35)</b>	3
7	Withdrawal cash at ATM (T 7)	54 (7.2)	111 (14.8)	70 (9.3)	336 (44.8)	179 (23.9)	<b>3.63</b> <b>(1.19)</b>	9
8	Railway/air ticket/other ticket bookings (T 8)	102 (13.6)	245 (32.7)	142 (18.9)	143 (19.1)	118 (15.7)	<b>2.90</b> <b>(1.29)</b>	4
9	Tax payments (T 9)	34 (4.5)	138 (18.4)	111 (14.8)	277 (36.9)	190 (25.3)	<b>3.60</b> <b>(1.17)</b>	8
10	Repayment of loan EMI's (T 10)	89 (11.9)	162 (21.6)	132 (17.6)	175 (23.3)	192 (25.6)	<b>3.29</b> <b>(1.36)</b>	7
11	Insurance, mutual funds and stock broking transactions (T 11)	85 (11.3)	183 (24.4)	145 (19.3)	141 (18.8)	196 (26.1)	<b>3.24</b> <b>(1.37)</b>	6

Figures in Parentheses are the row-wise percentages

#### 4.2 t-test and F-test (ANOVA)

This part of the study has made an attempt to investigate the variation between the various demographic variables and various transactions used by customers through credit card automated banking services. The results are presented in table 1.2, which contains t-test values and one way ANOVA (F-test) values and their respective significance levels.

As depicted by the t-test and F-test values in table 1.2, it is evident that the first transaction namely 'pay your utility bills' (T 1) has shown a significant difference of opinion with various characteristics of demographic variables as 'occupation', 'annual income', 'level of education', 'sector of bank' and 'Place of residence' at 1 percent level of significance, whereas considering respondents who belong to various categories of 'gender' and 'age group' have significant difference at 5 percent level of significance.

Further it is obvious from the table that t and F statistics on both fourth and fifth service/transaction through credit card namely 'shopping online' (T 4) and 'shopping at merchant establishment expenses' (T 5) registered significant variation of usage with 'occupation', 'annual income', 'level of education', 'sector of bank', 'age group' and 'place of residence' at 1 percent level of significance.

It is very interesting to evaluate the response on sixth service/ transaction through credit card namely 'fuelling up your vehicle' (T 6) differ significantly with 'marital status', 'occupation', 'annual income', 'level of education', 'age group' and 'place of residence' at 1 percent and with 'sector of bank' at 5 percent level of significance.

It is very interesting to identify the results from the table that respondents had shown significant difference in opinion between tenth transaction of credit card transactions i.e. ‘repayment of loan EMI’s’ (T 10) and various groups of ‘gender’, ‘occupation’, ‘annual income’, ‘sector of bank’, ‘age group’ and ‘Place of residence’ at 1 percent level of significance. The variation of respondents across ‘level of education’ is significant at 5 percent level of significance.

The opinion of respondents about eleventh transaction namely ‘insurance, mutual fund and stock broking transactions’ (T 11) have significant variation of usage with ‘occupation’, ‘annual income’, ‘sector of bank’, ‘age group’ and ‘place of residence’ at 1 percent level of significance, whereas variation of respondents who belong to different ‘marital status’ and ‘level of education’ differ significantly at 5 percent level of significance.

**Table 1.2: Results of t-test and One-way Analysis of Variance Regarding the Various Services/Transactions through Credit Card**

Services / Transactions	Demographic Profiles of Respondents							
	t-test Values and significance		One way ANOVA (F-test) Values and significance					
	Gender	Marital Status	Occupation	Annual Income	Level of Education	Sector of Bank	Age Group	Place of Residence
<b>T 1</b>	-2.067 (.039)*	-1.840 (.067)	6.621 (.000)* *	10.944 (.000)* *	5.363 (.005)**	6.781 (.001)* *	3.023 (.017)*	22.046 (.000)**
<b>T 2</b>	-2.169 (.031)*	-.663 (.508)	1.107 (.346)	3.173 (.024)*	.842 (.431)	.155 (.856)	3.638 (.006)* *	1.623 (.166)
<b>T 3</b>	.085 (.932)	-1.891 (.059)	4.475 (.004)* *	6.143 (.000)* *	.608 (.545)	8.370 (.000)* *	.965 (.426)	4.455 (.001)**
<b>T 4</b>	-1.308 (.192)	-1.810 (.071)	15.455 (.000)* *	9.869 (.000)* *	11.625 (.000)**	7.453 (.001)* *	4.939 (.001)* *	11.451 (.000)**
<b>T 5</b>	-1.804 (.072)	-1.634 (.103)	11.397 (.000)* *	14.678 (.000)* *	9.439 (.000)**	29.187 (.000)* *	3.652 (.006)* *	18.448 (.000)**
<b>T 6</b>	-.665 (.507)	-4.331 (.000)* *	11.142 (.000)* *	14.853 (.000)* *	6.775 (.001)**	4.186 (.016)*	7.266 (.000)* *	8.122 (.000)**



<b>T 7</b>	-1.498 (.135)	-1.941 (.053)	4.713 (.003)* *	4.450 (.004)* *	.783 (.457)	4.661 (.010)*	3.160 (.014)*	10.022 (.000)**
<b>T 8</b>	-.190 (.849)	-1.566 (.118)	10.742 (.000)* *	10.118 (.000)* *	3.000 (.050)*	13.174 (.000)* *	4.659 (.001)* *	24.476 (.000)**
<b>T 9</b>	-1.020 (.309)	-2.065 (.040)*	1.977 (.116)	2.469 (.061)	.416 (.660)	6.287 (.002)* *	2.535 (.039)*	2.545 (.038)*
<b>T 10</b>	-4.043 (.000)* *	-1.756 (.080)	10.439 (.000)* *	19.455 (.000)* *	4.014 (.018)*	27.776 (.000)* *	8.633 (.000)* *	21.584 (.000)**
<b>T 11</b>	-1.092 (.276)	-2.355 (.019)*	5.719 (.001)* *	9.904 (.000)* *	3.880 (.021)*	15.418 (.000)* *	6.737 (.000)* *	13.741 (.000)**

\*\*significant at 1percent and \*Significant at 5 percent level (Null Hypothesis rejected)

### 4.3 Level of Satisfaction through Credit Card

The frequency distribution presented in table 1.3 is more expanded form of responses provided by the credit card users. To achieve more specific and clear results regarding the satisfaction level of credit card users, overall mean (lesser the mean higher the rank) and S.D. values are calculated and the results are presented in table. The results were obtained on 15 statements on a five point scale (ranging between 1 to 5, where 1 stands for ‘highly satisfied’, 2 for ‘satisfied’, 3 for ‘average’, 4 for ‘dissatisfied’ and 5 for ‘highly dissatisfied’). On the basis of the responses given by credit card users first rank is attained by ‘promptness of delivery’ (S 2). It can be seen that regarding promptness of delivery as high as 70.8 percent respondents have shown their satisfaction. It is obvious from the table that in total 71.5 percent and 69.2 percent of the users of credit card are satisfied from the ‘information provided while purchasing credit card’ (S 1) and ‘usefulness of credit card’ (S 3). Further, in total 63 percent of the users of credit card are satisfied by ‘online shopping facility by credit card’ (S 15), while 60.4 percent of the respondents are satisfied by credit card service ‘statement of transactions’ (S 13). Further table depicts that in total 48.9 percent and 52.8 percent of the respondents are satisfied by ‘fees charges’ (S 4) and ‘administration facilities given’ (S 6). Similarly as high as 46.8 percent and 48.4 percent of the respondents are satisfied by ‘risk of loosing/theft/missing’ (S 9) and ‘withdraw of cash’ (S 14).

The present paragraph is an attempt to provide the details of overall mean values and accordingly their respective ranks. The respondents reflected that they are satisfied by the ‘promptness of delivery’ ( $\bar{x}$  =2.39) among all the statements of satisfaction followed by ‘information provided to you while purchasing credit card’ ( $\bar{x}$  =2.40) and ‘usefulness of credit card’ ( $\bar{x}$  =2.40). Further, statement of satisfaction i.e. ‘online shopping facility by credit card’ ( $\bar{x}$  =2.47), ‘statement of transaction’ ( $\bar{x}$  =2.57) and ‘safety, security and accuracy’ ( $\bar{x}$  =2.64) are also very important issues which increase the satisfaction level of the customers.

The value of the standard deviation is more than one in all the statements of level of satisfaction through credit card. Hence respondents have difference in their level of satisfaction by credit card services. Maximum percentage share of respondents have fallen in satisfied or average categories as proved by the percentage share secured. Out of total responses that almost 50 percent of credit card users have registered their responses under these two options (Satisfied and Average).

**Table 1.3: Frequency Distribution of Overall Satisfaction Level through Credit Card**

Sr. No.	Statements	1	2	3	4	5	Mean (S.D.)	Rank
1	Information provided to you while purchasing credit card (S 1)	140 (18.7)	396 (52.8)	37 (4.9)	123 (16.4)	54 (7.2)	<b>2.40</b> <b>(1.17)</b>	2
2	Promptness of delivery (S 2)	146 (19.5)	385 (51.3)	68 (9.1)	81 (10.8)	70 (9.3)	<b>2.39</b> <b>(1.18)</b>	1
3	Usefulness of credit card (S 3)	162 (21.6)	357 (47.6)	51 (6.8)	123 (16.4)	57 (7.6)	<b>2.40</b> <b>(1.20)</b>	2
4	Fee charges (S 4)	132 (17.6)	235 (31.3)	97 (12.9)	208 (27.7)	78 (10.4)	<b>2.82</b> <b>(1.29)</b>	7
5	Rate of interest charged (S 5)	121 (16.1)	236 (31.5)	83 (11.1)	230 (30.7)	80 (10.7)	<b>2.88</b> <b>(1.29)</b>	9
6	Administrative facilities given (S 6)	101 (13.5)	295 (39.3)	90 (12.0)	166 (22.1)	98 (13.1)	<b>2.82</b> <b>(1.28)</b>	7
7	Creditability given by bank (S 7)	139 (18.5)	284 (37.9)	87 (11.6)	164 (21.9)	76 (10.1)	<b>2.67</b> <b>(1.28)</b>	6
8	Grievance handling (S 8)	89 (11.9)	274 (36.5)	82 (10.9)	210 (28.0)	95 (12.7)	<b>2.93</b> <b>(1.27)</b>	11
9	Risk of loosing/theft/missing (S 9)	105 (14.0)	246 (32.8)	80 (10.7)	214 (28.5)	105 (14.0)	<b>2.95</b> <b>(1.31)</b>	12
10	Periodic statements (S 10)	118 (15.7)	264 (35.2)	91 (12.1)	179 (23.9)	98 (13.1)	<b>2.83</b> <b>(1.31)</b>	8
11	Credit worthiness (S 11)	113 (15.1)	259 (34.5)	94 (12.5)	185 (24.7)	99 (13.2)	<b>2.86</b> <b>(1.30)</b>	10
12	Safety, security and accuracy (S 12)	150 (20.0)	271 (36.1)	100 (13.3)	155 (20.7)	74 (9.9)	<b>2.64</b> <b>(1.27)</b>	5
13	Statement of transactions (S 13)	161 (21.5)	292 (38.9)	78 (10.4)	142 (18.9)	77 (10.3)	<b>2.57</b> <b>(1.29)</b>	4
14	Withdrawal of cash (S 14)	99 (13.2)	264 (35.2)	74 (9.9)	195 (26.0)	118 (15.7)	<b>2.95</b> <b>(1.33)</b>	12
15	Online shopping facility by credit card (S 15)	187 (24.9)	286 (38.1)	78 (10.4)	133 (17.7)	66 (8.8)	<b>2.47</b> <b>(1.277)</b>	3

Figures in Parentheses are the row-wise percentages

#### 4.4 t-test and F-test (ANOVA)

After explaining the frequency distribution, overall mean values and standard deviation related to level of satisfaction while using credit card automated banking service as shown in table 1.4, it is very important to analyze the significant variation between various statements of satisfaction through credit card and demographic variables of the respondents. For it, t-test and F-test has been applied. In this consideration the variation of level of satisfaction among respondents about first statement related to satisfaction while using credit card 'information provided to you while purchasing credit card' (S 1) have significant relation with 'occupation', 'Place of residence' at 1 percent level of significance, whereas the satisfaction level of respondents associated with 'level of education' differs significantly at 5 percent level of significance.

It is very interesting to see the results of t-test and F-test values of second statement 'promptness of delivery' (S 2), evident that there is significant variation with 'marital status', 'occupation', 'annual income', 'level of education', 'sector of bank' and 'place of residence' at 1 percent and across 'age group' at 5 percent level of significance.

The level of satisfaction of customers differ significantly about third statement namely 'usefulness of credit card' (S 3) with 'marital status', 'occupation', 'annual income', 'level of education' and 'place of residence' at 1 percent level of significance, and with respect to 'sector of bank' and 'age group' at 5 percent level of significance.

The fourth statement of satisfaction namely 'fee charges' (S 4) differs significantly with 'marital status', 'occupation', 'annual income', 'level of education', 'sector of bank', 'age group' and 'place of residence' at 1 percent level of significance.

As far as level of satisfaction through credit card automated service are concerned the level of satisfaction of respondents on fifth statement namely 'rate of interest charged' (S 5) differ significantly with various demographic profiles of the respondents with respect to 'occupation', 'sector of bank' and 'place of residence' at 1 percent level of significance and with 'annual income' at 5 percent level of significance.

As depicted by the t-test and F-test values in table that the ninth statement 'risk of loosing/theft/missing' (S 9) evident the presence of significant difference of satisfaction level with 'gender', 'occupation', 'annual income', 'level of education', 'sector of bank' and 'place of residence' at 5 percent level of significance and with 'age group' at 1 percent level of significance.

It is clearly reflected from the table that the responses on tenth statement of satisfaction 'periodic statements' (S 10) showed significant difference in relation to 'occupation', 'annual income', 'sector of bank' and 'Place of residence' at 1 percent level of significance.

The statement namely 'credit worthiness' (S 11) is varying significantly with 'occupation', 'annual income', 'sector of bank' and 'place of residence' of respondents at 1 percent level of significance, whereas level of satisfaction differs significantly with 'level of education' at 5 percent level of significance as reflected by their significant F-test values.

As identifiable from the table, the calculated t and F values for thirteenth statement of satisfaction namely ‘statement of transactions’ (S 13) differ significantly with respect to different categories of ‘occupation’, ‘age group’ and ‘place of residence’ at 1 percent level of significance accordingly, whereas the level of satisfaction differ with ‘marital status’ and ‘annual income’ at 5 percent level of significance. It can be observed from the t and F values that respondents belong to other remaining demographic variables have similar level of satisfaction.

Table further evident the results about fifteenth statement namely ‘online shopping facility by credit card’ (S 15), which showed significant variation in the level of satisfaction among respondents who belong to various categories of ‘occupation’, ‘annual income’, ‘age group’ and ‘place of residence’ at 1 percent level of significance. Further, level of satisfaction between respondents about above statement of satisfaction differs significantly with ‘level of education’ at 5 percent level of significance.

**Table 1.4: Results of t-test and One-way Analysis of Variance Regarding the Overall Satisfaction Level through Credit Card**

Statement s	Demographic Profiles of Respondents							
	t-test Values and significance		One way ANOVA (F-test) Values and significance					
	Gender	Marital Status	Occupati on	Annual Income	Level of Educat ion	Sector of Bank	Age Group	Place of Residen ce
<b>S 1</b>	.097 (.923)	-.601 (.549)	4.338 (.005)**	2.066 (.103)	3.387 (.034)*	2.170 (.115)	2.237 (.064)	22.793 (.000)**
<b>S 2</b>	1.387 (.166)	-2.929 (.004)* *	5.588 (.001)**	4.776 (.003)* *	8.321 (.000)* *	6.112 (.002)* *	2.381 (.050)*	10.481 (.000)**
<b>S 3</b>	.044 (.965)	-2.681 (.008)* *	5.595 (.001)**	8.649 (.000)* *	5.549 (.004)* *	3.193 (.042)*	3.239 (.012)*	6.799 (.000)**
<b>S 4</b>	.844 (.399)	-3.021 (.003)* *	16.988 (.000)**	5.196 (.001)* *	5.498 (.004)* *	11.514 (.000)* *	5.584 (.000)* *	10.537 (.000)**
<b>S 5</b>	1.560 (.120)	-1.166 (.244)	6.699 (.000)**	3.517 (.015)*	1.708 (.182)	5.577 (.004)* *	2.311 (.056)	6.122 (.000)**
<b>S 6</b>	4.760 (.000)* *	-1.105 (.270)	3.310 (.020)*	2.085 (.101)	.596 (.551)	2.122 (.120)	3.271 (.011)*	7.741 (.000)**

<b>S 7</b>	1.910 (.057)	.873 (.383)	5.304 (.001)**	2.807 (.039)*	1.246 (.288)	.745 (.475)	3.664 (.006)* *	1.508 (.198)
<b>S 8</b>	-.340 (.734)	-2.104 (.036)*	4.686 (.003)**	.908 (.437)	1.473 (.230)	.437 (.646)	5.286 (.000)* *	1.603 (.172)
<b>S 9</b>	-2.243 (.025)*	-1.183 (.238)	3.136 (.025)*	3.410 (.017)*	3.239 (.040)*	3.379 (.035)*	3.470 (.008)* *	2.481 (.043)*
<b>S 10</b>	-1.808 (.071)	.021 (.983)	5.620 (.001)**	8.151 (.000)* *	2.250 (.106)	14.549 (.000)* *	.952 (.433)	9.942 (.000)**
<b>S11</b>	1.047 (.296)	-1.138 (.256)	5.354 (.001)**	4.570 (.004)* *	4.545 (.011)*	5.043 (.007)* *	1.865 (.115)	8.976 (.000)**
<b>S 12</b>	.500 (.617)	-1.042 (.298)	5.345 (.001)**	5.804 (.001)* *	7.942 (.000)* *	.433 (.649)	.757 (.554)	2.302 (.057)
<b>S 13</b>	.335 (.738)	-2.174 (.030)*	4.872 (.002)**	3.722 (.011)*	2.633 (.073)	.377 (.686)	5.857 (.000)* *	5.525 (.000)**
<b>S 14</b>	.653 (.514)	-2.360 (.019)*	3.224 (.022)*	1.868 (.134)	4.535 (.011)*	.443 (.642)	1.697 (.149)	14.582 (.000)**
<b>S 15</b>	.595 (.552)	-.672 (.502)	7.927 (.000)**	4.757 (.003)* *	3.070 (.047)*	1.203 (.301)	3.405 (.009)* *	3.568 (.007)**

\*\*significant at 1percent and \* Significant at 5 percent level (Null Hypothesis rejected)

## 5. Major Findings and Conclusion

1. The study analysed that credit card users mostly used their credit card for “Shopping Online”, “Pay your utility bills”, “Fuelling up your vehicle”, “Railway/air ticket/other ticket bookings” and “Shopping at merchant establishment/expenses”.

2. It also has been investigated by the research that credit card users rarely or never used their credit card for “Withdrawal cash at ATM”, “Recharge your prepaid mobile card” and “Payment of donation/charity”.

3. Further study revealed that consumers belongs to demographic variables namely “Occupation”, “Annual Income”, “Level of Education”, “Sector of Bank”, “Age group” and “Place of Residence” have significant differences in their opinion with more or less all the transactions by using credit card.

4. Study explored that consumers belongs to different “gender” and “marital status” have more or less similarity in their perception about all the transactions done by credit cards.
5. Study also concluded that users using Credit card services are highly satisfied/satisfied because services namely ‘Promptness of delivery’, ‘Information provided to you while purchasing credit card’, ‘Usefulness of credit card’ and ‘online shopping facility by credit card’ are very excellent. On the other hand consumers are highly dissatisfied or dissatisfied because of ‘Credit worthiness’, ‘Grievance handling’ and ‘Risk of loosing/theft/missing’ of credit cards. Further banks are not fulfilling consumers’ requirements.
6. Further study revealed that consumers belongs to demographic variable namely “Occupation” have significant differences in their level of satisfaction with all the factors of satisfaction. Further consumers belongs to different “annual income” and “place of residence” also more or less showed wide variation in their satisfaction level.
7. It is also concluded from the study that “gender” of the consumers doesn’t have differences in satisfaction levels, as Consumers showed more or less similar level of satisfaction either they belong to different “gender” groups.

## **6. Managerial Implication**

1. The automated banking service environment is changing fast and very dynamic. What was relevant yesterday may not work today. In such dynamic environment, the study offers the contemporary existing and thinking pattern of customer about the services of banks. These contemporary factors will help banks to rethink obsolete parameters and enhance currently desired input.
2. The study is helpful to plug out weak areas, which need improvement with special reference to credit card services provided by various banks. The study provides meaningful direction to bank management and decision maker to improve their service quality for higher customer satisfaction.

## **7. Future Research Directions**

A number of various aspects related to credit cards services remained unsolved in this study will form the interesting topics for future research.

The study is based on the survey of only 750 users of credit cards; the future research can be conducted with a large sample size.

The future research can be sector specific, company specific or product specific.

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