



ANALYSIS OF USAGE PATTERNS AND MEASUREMENT OF SATISFACTION LEVEL OF DEBIT CARDS

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Abstract: *A Debit Card is a plastic payment Card that provides the Cardholder electronic access to his or her bank account at a Bank/Financial institution. Some Cards have stored value which could be used for payments. Most cards relay a message to the Cardholder's bank to transfer funds from a payer's designated bank account. The Card can be used in lieu of cash while paying for purchases. Consumers are increasingly adopting the electronic technology for making payment and use of Debit Cards is higher for younger generation and is highest for single people. A very small fraction of respondents are using Debit Card for making online payment for purchase of goods and services. However, a sizeable number are using Debit Cards from multiple banks.*

Keywords: *Debit Card, ATM Card, On-line shopping, Pre-paid Debit cards, Money Transfer, Money withdrawal, Smart Card*

INTRODUCTION

A Debit Card is a plastic payment Card that provides the Cardholder electronic access to his or her bank account at a financial institution. Debit Cards are machine readable, magnetically encoded plastic cards which are similar to ATM cards. These can be used to make retail payments and can be used at ATM machines (Caskey, John P., Sellon Jr, Gordon H, 1994). Debit, Credit and Prepaid cards are three forms of payment cards. Debit cards allow consumers to access funds at their banks to pay merchants and are sometimes referred as "pay now" cards because funds are generally debited from cardholder's account within a day or two of purchase (Wilko B & S. Chakaravarty, 2008). Generally debit cards are of three types : Online debit cards, off-line debit cards, and prepaid debit cards. Most debit cards are online debit cards wherein funds are immediately transferred from the cardholder's deposit account. The immediate debiting of the cardholder's account distinguishes the online debit card from credit cards wherein payment is to be made after certain days depending upon the credit period allowed. As the online card allows direct access to customer's bank account, the customer must personally authorize each



transaction. This necessitates the use of a specialized card reader which can identify the personal identification number (PIN). Off-line debit cards are characterized by delayed settlement. When a customer uses an off-line card to make purchases, though the customer's account is immediately debited, but the merchants' account is credited after a delay of two to three days from the date of purchase. Thus use of an off-line debit card is similar to use credit card. The third type of debit card, the prepaid card, is of two types. A special purpose card and another known as "Smart card". These cards are not linked to a card holder's deposit account. When a customer uses pre-paid cards to make a purchase, the card reader deducts the amount of transaction from the prepaid electronic balance shown in the card. Thus in case of pre-paid cards, the balance in the card account is debited instead of the deposit account of the customer. Debit cards replace checkbooks as the transactions are directly paid from the user's bank account. No balance is carried forward and interest does not accrue as with charge cards (Mills, Kathy J, 1996). Consumers are increasingly adopting electronic technology as a means of making payments and managing their personal finances (Catherine J Bell and Jeanne M. Hogarth, 2009). In a study conducted in USA, debit cards were most intensively used payment method accounting for 35% of transactions. A regression study concluded that cash and debit card use was higher for younger, lower income, less educated and poorer respondents and was highest for single people (Scott Shub and Joanna Stevens, 2012). In a study conducted on use of debit cards by cardholders it was found that there is very high correlation (0.910) between the number of cards issued and number of transactions (Srivastava O N, 2015). However, the same study pointed a very low correlation (0.257) between the number of cards and transactions per card per month at Point of Sales. Debit cards which function for a combination of utilities are called Combo cards. Some banks have issued Combo Cards for a number of purposes in association with various agencies, and these have been found to be very good retention tool for existing customers (Srivastava O N, 2014).

OBJECTIVE OF THE STUDY

- i. Understand the usage Pattern of Debit Cards
- ii. Correlation between various factors determining the usage pattern of Debit Cards.
- iii. To gauge the satisfaction level of Debit Card holders on the basis of a sample survey and analysis of the Primary data.



HYPOTHESIS

HYPOTHESIS 1

Null Hypothesis: Level of satisfaction in usage of Debit Card for withdrawal of money from ATM is independent of the duration of usage of Debit Card.

Alternate Hypothesis: Level of satisfaction in usage of Debit Card for withdrawal of money from ATM is dependent on the duration of usage of Debit Card.

HYPOTHESIS 2

Null Hypothesis: Level of satisfaction in usage of Debit Card for Transfer of money to other accounts is independent of the duration of usage of Debit Card.

Alternate Hypothesis: Level of satisfaction in usage of Debit Card for Transfer of money to other accounts is dependent on the duration of usage of Debit Card.

HYPOTHESIS 3

Null Hypothesis: Level of satisfaction in usage of Debit Card for Purchase of goods from shops is dependent on the duration of usage of Debit Card.

Alternate Hypothesis: Level of satisfaction in usage of Debit Card for Purchase of goods from shops is independent of the duration of usage of Debit Card.

HYPOTHESIS 4

Null Hypothesis: Level of satisfaction in usage of Debit Card for Purchase of goods on-line is dependent on the duration of usage of Debit Card.

Alternate Hypothesis: Level of satisfaction in usage of Debit Card for Purchase of goods on-line is independent of the duration of usage of Debit Card.

HYPOTHESIS 5

Null Hypothesis: Level of satisfaction in usage of Debit Card for on-line transactions is dependent on the duration of usage of Debit Card.

Alternate Hypothesis: Level of satisfaction in usage of Debit Card for on-line transactions is independent of the duration of usage of Debit Card.



METHODOLOGY

1. Collection of primary data in regard to use and satisfaction level of users of State Bank Debit Card through online Questionnaire.
2. Analysis of data to determine the level of satisfaction on various parameters and determine the association between duration of usage and level of satisfaction on various parameters.

PROCESS

Obtain firsthand information by interacting online with existing Debit Card users and analysis of data through coding and use of SPSS and Microsoft Excel.

SAMPLING DESIGN

Convenience sampling has been used in the study. Data has been collected from the users who are using Debit Cards

QUESTIONNAIRE DESIGN

A structured questionnaire has been designed (Annexure I). Likert scale has been used in the questionnaire to record respondents' level of agreement to the statements that suit the purpose of the objective.

DATA COLLECTION

The process of data collection involved following steps:

- Hosting the questionnaire online
- Recording the responses from the respondents
- Coding the data using SPSS and Microsoft Excel
- Interpretation

The questionnaire was mailed to some educational institutions-respondents of Manipal University and BITS Pilani, (Goa) and responses were collected online through Google Drive form. It was self-administered. A total of 82 respondents have been chosen and responses collected from them. Response sheets have been then imported into MS-Excel and coded accordingly as pre-determined during Questionnaire design. The coded data has been entered into SPSS and prepared for performing analysis. As technology is advancing, the methods of doing survey are also changing. The process of hosting the questionnaire online through Google Drive Form and collecting the sample responses is one of the best methods



in doing a survey. It reduces the time and cost of doing survey and it also gives the respondent full freedom in giving the responses and the influence of interviewer on respondent is nil.

LIMITATIONS OF THE STUDY

The sample is restricted to limited number because of limited availability of respondents.

SAMPLE SURVEY-DATA ANALYSIS

DURATION

Majority of the people surveyed had been using the Debit Card for above two years, and so they were aware of its features. This improved the reliability of the study.

Duration	Frequency	Percent	Cumulative Percent
1-2 years	14	17.0	39.0
2 - 3 years	31	38.0	67.0
>3 years	27	33.0	100.0
Total	82	100.0	

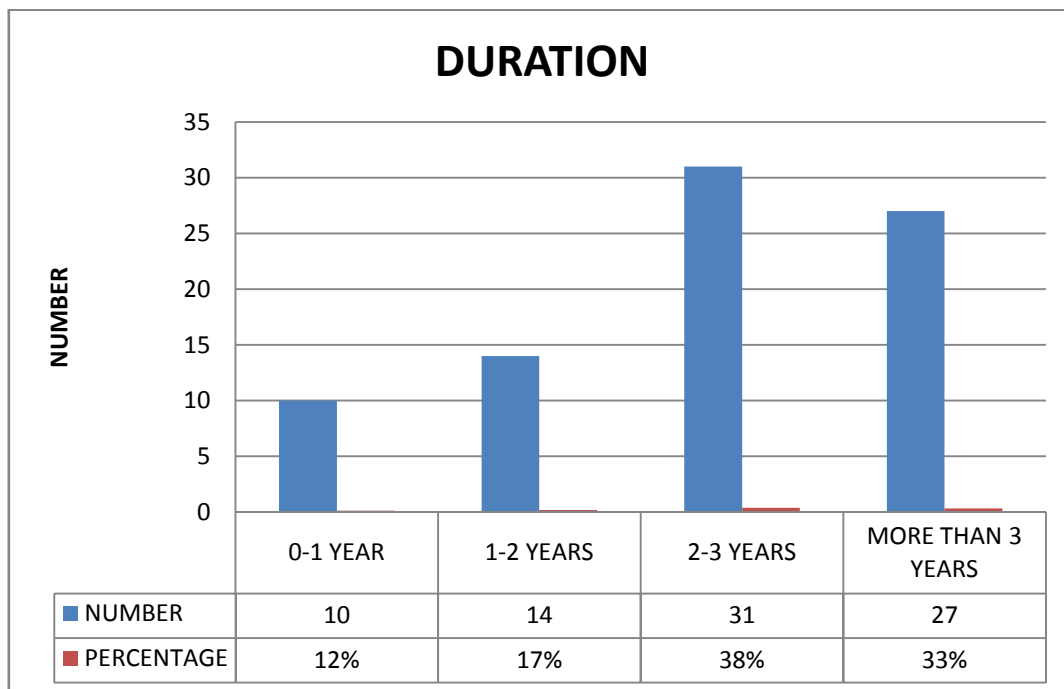


Fig 1: Duration for which Cards were being used

FACILITY MOST USED

Most of the respondents used the Debit Card for withdrawal of money from ATM. The other uses of the Debit Card in descending order are:

1. On-line transactions



2. Purchase of Goods On-line
3. Purchase of Goods from Shops
4. Transfer of money to other accounts

Facility Most Used	Frequency	Percent	Cumulative Percent
Withdrawal of Money from ATM	71	87.0	87.0
Purchase of Goods Online	3	4.0	91.0
Online Transactions	5	6.0	97.0
Purchase of Goods from Shops	2	2.0	99.0
Transfer of Money to Other Accounts	1	1.0	100.0
Total	82	100.0	

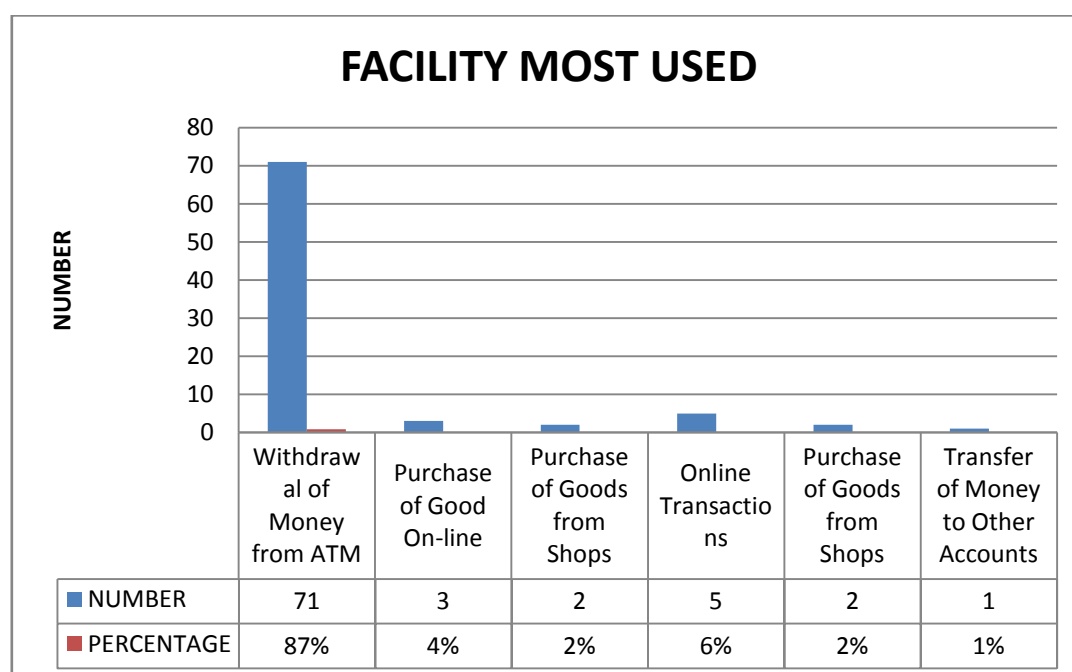


Fig 2: Facility most used by Debit Card holders

SATISFACTION LEVEL- MONEY WITHDRAWAL FROM ATM

Most of the respondents (73%) were satisfied in the use of Debit Card for withdrawing money from ATM.

Level of Satisfaction	Frequency	Percent	Cumulative Percent
Highly satisfied	24	30.0	30.0
Satisfied	34	43.0	73.0
Neutral	8	10.0	83.0
Not Satisfied	9	11.0	94.0
Highly Not Satisfied	5	6.0	100.0
Total	80	98.8	

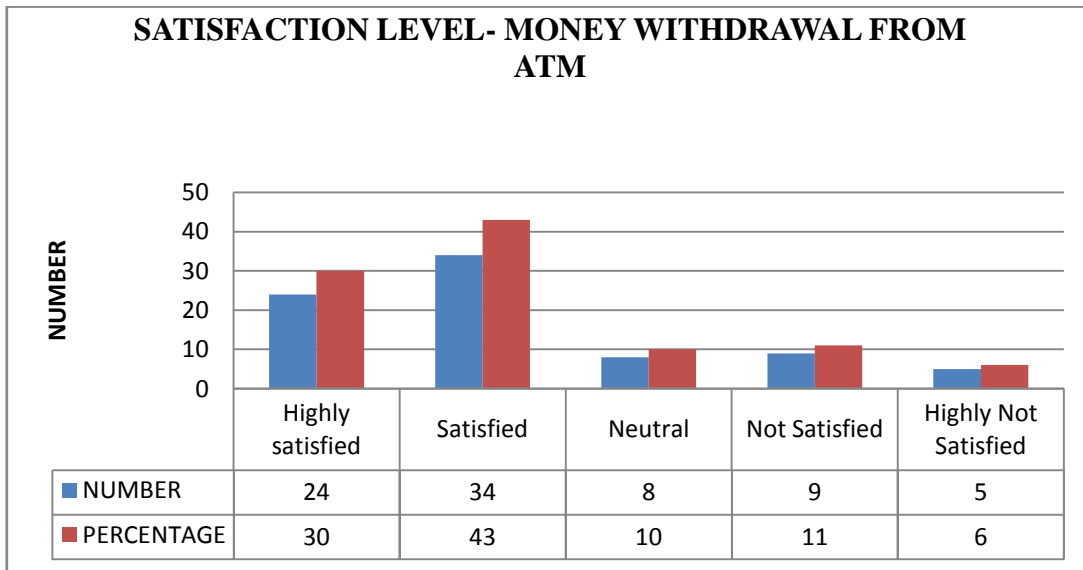


Fig 3: Level of satisfaction in using the Debit Card for withdrawing money from ATM

SATISFACTION LEVEL- PURCHASE OF GOODS FROM SHOPS

Most of the respondents were satisfied (65%) in the use of Debit Card while using it for making purchase of goods from shops.

Level of Satisfaction	Frequency	Percent	Cumulative Percent
Highly satisfied	15	21.0	21.0
Satisfied	31	44.0	65.0
Neutral	17	24.0	89.0
Not Satisfied	6	8.0	97.0
Highly not Satisfied	2	3.0	100.0
Total	71	100.0	

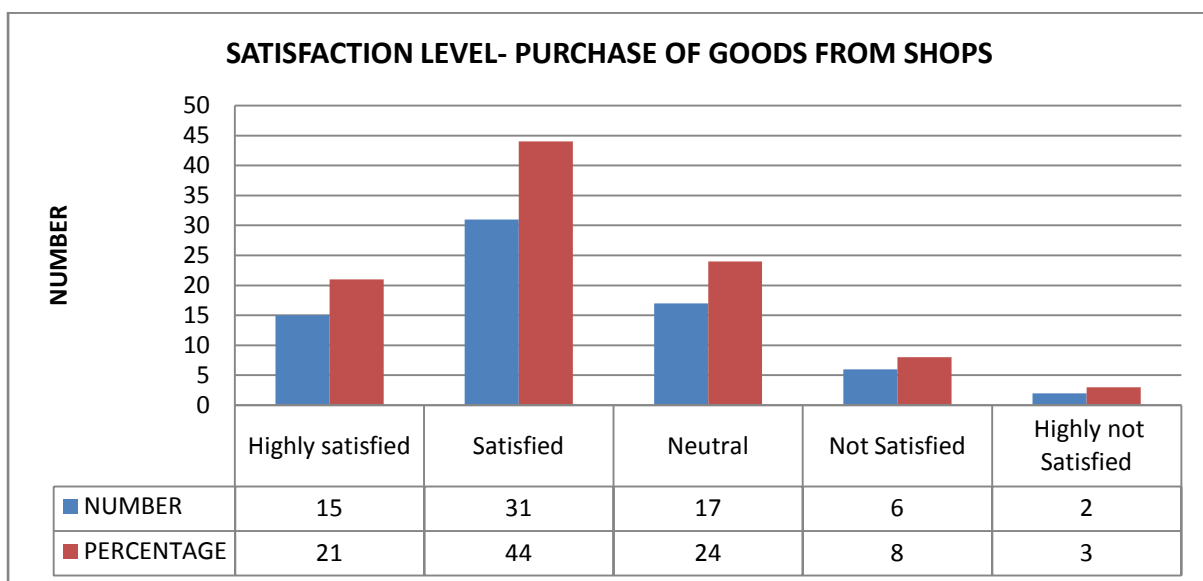


Fig 4: Level of satisfaction in using the Card for making purchase of goods from shops



SATISFACTION LEVEL- PURCHASE OF GOODS ON-LINE

Survey showed that only 60% of the respondents were satisfied.

Level of Satisfaction	Frequency	Percent	Cumulative Percent
Highly satisfied	18	24.0	24.0
Satisfied	27	36.0	60.0
Neutral	21	28.0	88.0
Not Satisfied	5	7.0	95.0
Highly not Satisfied	4	5.0	100.0
Total	75	100.0	

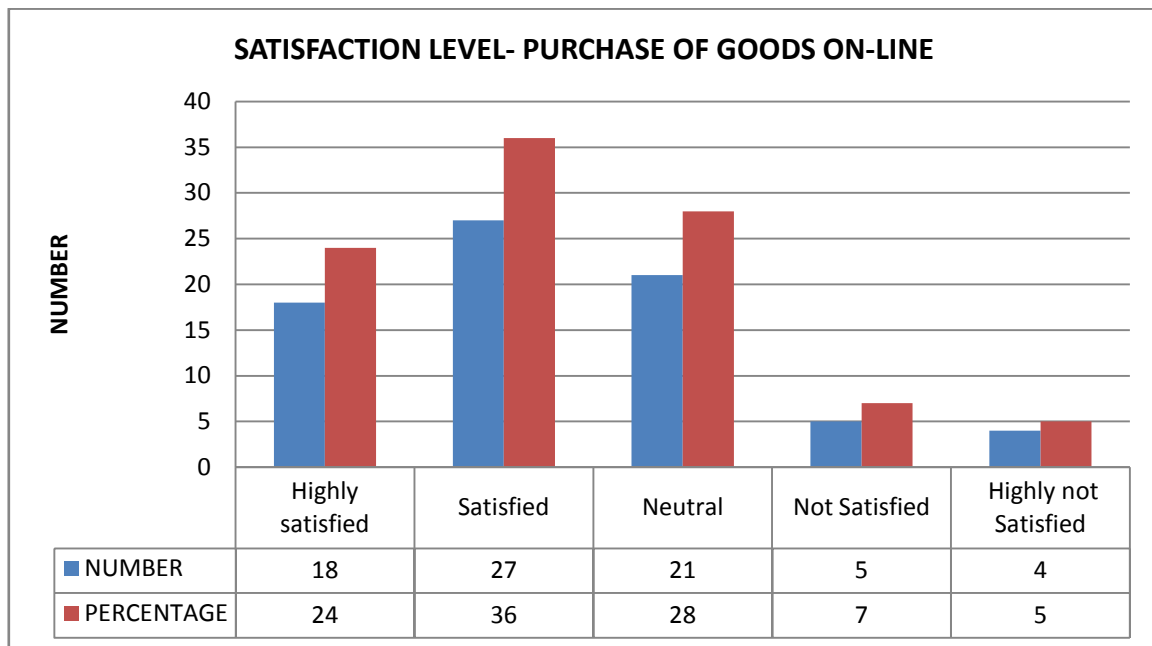


Fig 5: Level of satisfaction in using the Card for making purchase of goods on-line

SATISFACTION LEVEL-TRANSFER OF MONEY TO OTHER ACCOUNTS

Only 58% of the respondents were satisfied while making use of card for transferring money to other accounts

Level of Satisfaction	Frequency	Percent	Cumulative Percent
Highly satisfied	11	15.0	15.0
Satisfied	31	43.0	58.0
Neutral	21	29.0	87.0
Not Satisfied	7	10.0	97.0
Not at all Satisfied	2	3.0	100.0
Total	72	100	

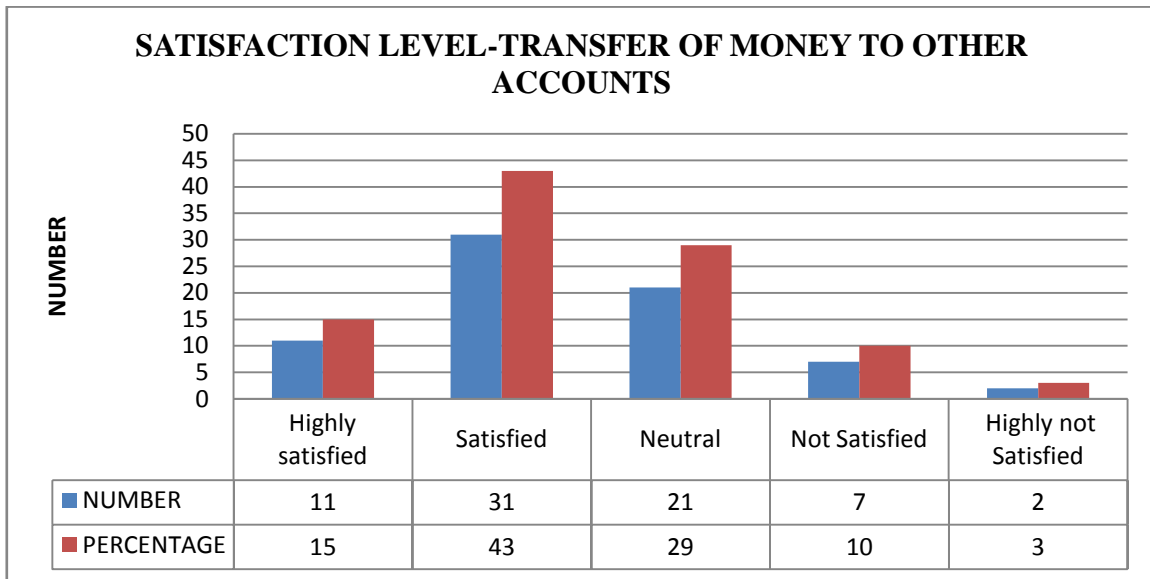


Fig 6: Level of satisfaction in using the Card for transferring money to other accounts

SATISFACTION LEVEL-ON-LINE TRANSACTIONS

Only 63% of the respondents were satisfied while using the Debit cards for making on-line transactions.

Level of Satisfaction	Frequency	Percent	Cumulative Percent
Highly satisfied	17	23.0	23.0
Satisfied	29	40.0	63.0
Neutral	19	26.0	89.0
Not Satisfied	3	4.0	93.0
Not at all Satisfied	5	7	100.0
Total	73	100.0	

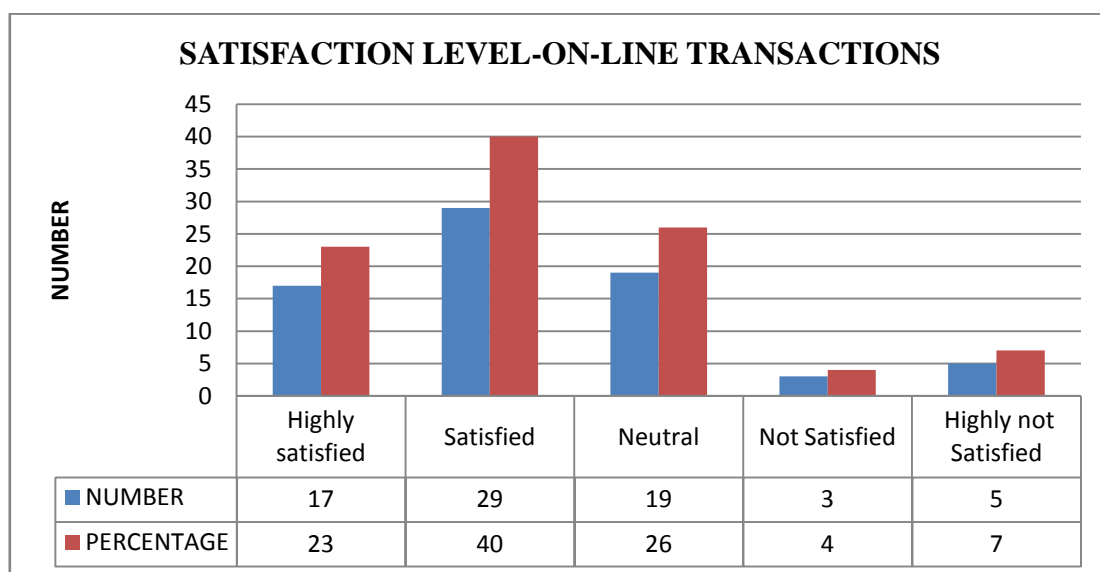


Fig 7: Level of satisfaction in using the Card for making on-line transactions.



PROBLEM FACED

Response	Frequency	Percent	Cumulative Percent
Yes	21	26.0	25.0
No	57	70.0	95.0
Not replied	4	5.0	100.0
Total	82	100.0	

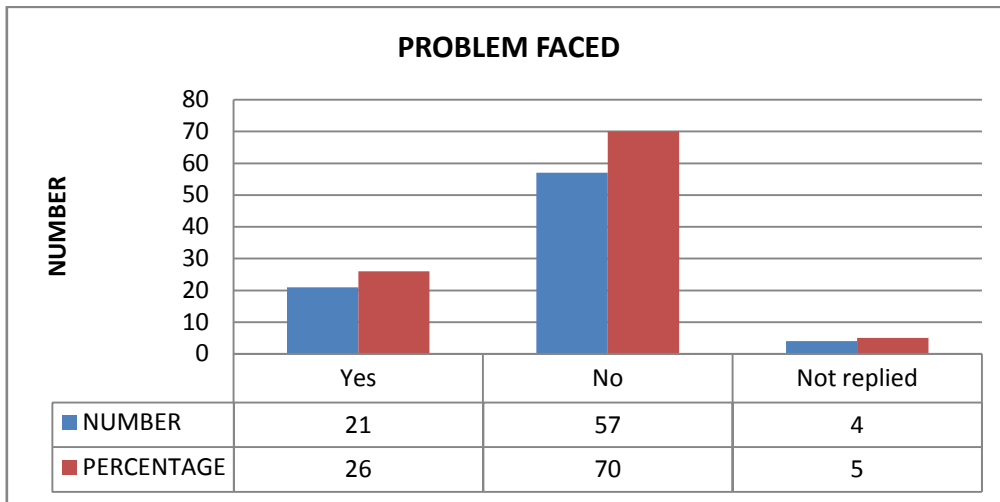


Fig 8 Problem faced in use of Debit Cards

About 70% of the respondents said that they faced no problems while using Debit Cards. In some cases account was debited but the money was not delivered.

PROBLEM SOLVED

Response	Frequency	Percent	Cumulative Percent
Yes	25	60.0	60.0
No	17	40.0	100.0

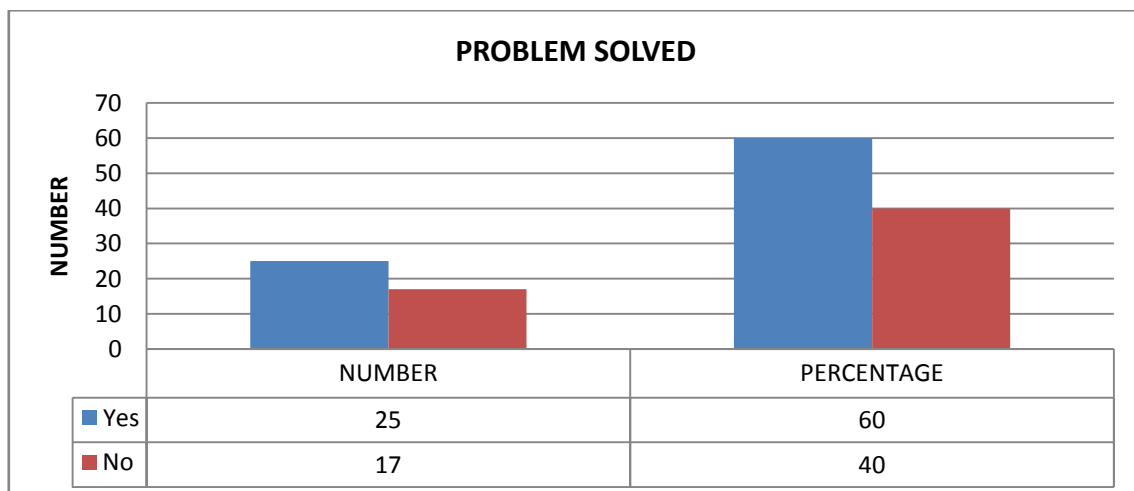


Fig : 9 whether problem was solved



USE OF MULTIPLE BANK DEBIT CARDS

Response	Frequency	Percent	Cumulative Percent
Yes	40	51.0	51.0
No	39	49.0	100
Total	79	100.0	

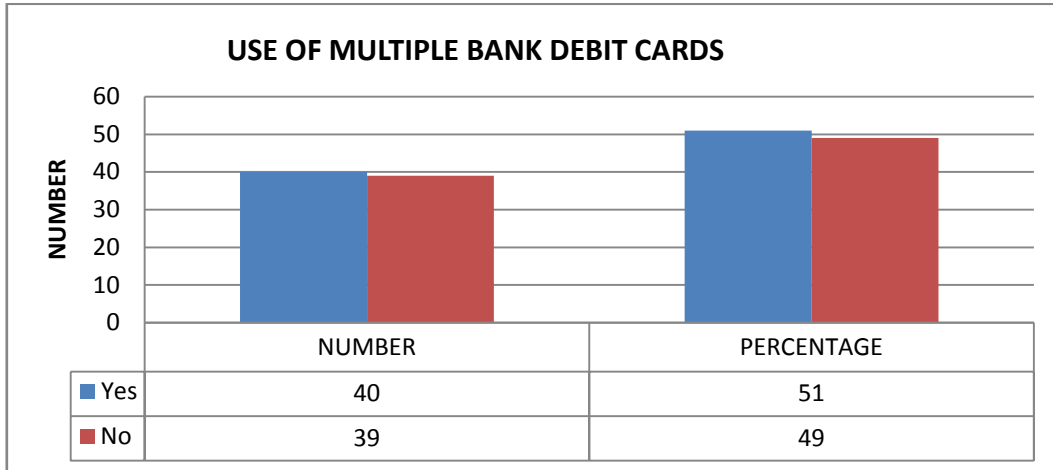


Fig 10 Use of other bank Debit Card

HYPOTHESIS TESTING -CHI-SQUARE TEST

HYPOTHESIS 1

Null Hypothesis: Level of satisfaction in usage of Debit Card for withdrawal of money from ATM is dependent on the duration of usage of Debit Card.

Alternate Hypothesis: Level of satisfaction in usage of Debit Card for withdrawal of money from ATM is independent of the duration of usage of Debit Card.

Money Withdrawal from ATM - Chi-Square Test			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	23.240 ^a	12	.026
Likelihood Ratio	24.225	12	.019
Linear-by-Linear Association	5.489	1	.019
N of Valid Cases	73		

a. 14 cells (70.0%) have expected count less than 5. The minimum expected count is .37.

At 95% level of significance the table value is 5.226 and actual value is 23.240. Null Hypothesis is rejected. The duration of usage of Debit Card is not influencing the satisfaction level in usage of Debit Card for withdrawal of money from ATM.



HYPOTHESIS 2

Null Hypothesis: Level of satisfaction in usage of Debit Card for Transfer of money to other accounts is dependent on the duration of usage of Debit Card.

Alternate Hypothesis: Level of satisfaction in usage of Debit Card for Transfer of money to other accounts is independent of the duration of usage of Debit Card.

Transfer of Money to other accounts-Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15.537 ^a	9	.077
Likelihood Ratio	18.003	9	.035
Linear-by-Linear Association	4.736	1	.030
N of Valid Cases	222		
a. 11 cells (68.8%) have expected count less than 5. The minimum expected count is 2.16.			

At 95% level of significance the table value is 5.226 and actual value is 15.537. Null Hypothesis is rejected. The duration of usage of Debit Card is not influencing the satisfaction level in transfer of money to other accounts.

HYPOTHESIS 3

Null Hypothesis: Level of satisfaction in usage of Debit Card for Purchase of goods from shops is dependent on the duration of usage of Debit Card.

Alternate Hypothesis: Level of satisfaction in usage of Debit Card for Purchase of goods from shops is independent of the duration of usage of Debit Card.

Purchase of Goods from Shops-Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.103 ^a	12	.187
Likelihood Ratio	17.318	12	.138
Linear-by-Linear Association	3.313	1	.069
N of Valid Cases	78		
a. 15 cells (75.0%) have expected count less than 5. The minimum expected count is .64.			

At 95% level of significance the table value is 5.226 and actual value is 6.103. Null Hypothesis is rejected. The duration of usage of Debit Card is not influencing the satisfaction level in the Purchase of goods from shops.



HYPOTHESIS 4

Null Hypothesis: Level of satisfaction in usage of Debit Card for Purchase of goods on-line is dependent on the duration of usage of Debit Card.

Alternate Hypothesis: Level of satisfaction in usage of Debit Card for Purchase of goods on-line is independent of the duration of usage of Debit Card.

Purchase of Goods On-line-Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	33.348 ^a	12	.001
Likelihood Ratio	40.783	12	.000
Linear-by-Linear Association	1.861	1	.172
N of Valid Cases	67		
a. 16 cells (80.0%) have expected count less than 5. The minimum expected count is .27.			

At 95% level of significance the table value is 5.226 and actual value is 33.348. Null Hypothesis is rejected. The duration of usage of Debit Card is not influencing the satisfaction level in the Purchase of goods on-line.

HYPOTHESIS 5

Null Hypothesis: Level of satisfaction in usage of Debit Card for on-line transactions is dependent on the duration of usage of Debit Card.

Alternate Hypothesis: Level of satisfaction in usage of Debit Card for on-line transactions is independent of the duration of usage of Debit Card.

On-line Transactions-Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15.537 ^a	9	.077
Likelihood Ratio	18.003	9	.035
Linear-by-Linear Association	4.736	1	.030
N of Valid Cases	222		
a. 11 cells (68.8%) have expected count less than 5. The minimum expected count is 2.16.			

At 95% level of significance the table value is 5.226 and actual value is 15.537. Null Hypothesis is rejected. The duration of usage of Debit Card is not influencing the satisfaction level in the on-line transactions.



CONCLUSION

The rejection of association between the duration of usage and satisfaction level for various types of transactions indicates that the technology is easy to use. This is obvious as now use of Debit Cards is much in vogue and even less educated people are using it.

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ANNEXURE-I
QUESTIONNAIRE ON DEBIT CARD

1. Since when you are using SBI Debit (ATM) Card? *

- 0-1 Year
- 1-2 Years
- 2-3 Years
- More than 3 Years

2. What facility in the SBI Debit (ATM) Card is most used by you?

- Withdrawal of Money from ATM
- Purchase of Goods from Shops
- Purchase of Goods Online
- Transfer of Money to Other Accounts
- On-line Transactions

3. Please specify the level of satisfaction from existing features of SBI Debit (ATM) Card

	Highly Satisfied	Satisfied	Neutral	Not satisfied	Highly Not Satisfied
Money Withdrawal from ATM	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purchase of Goods from Shops	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purchase of Goods On-line	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transfer of Money to Other Accounts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
On-line Transactions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. Have You faced any problem in use of SBI Debit (ATM) Card

- Yes
- No



5. If Yes, what is the Nature of Problem? Please specify below

6. Was the Problem solved by the branch?

- Yes
 No

7. Are you using Debit (ATM) Card of Other Banks also?

- Yes
 No

8. Which feature in the Debit (ATM) Card of Other Bank is better than SBI Debit Card.
Please Specify

9. Can You Suggest any additional Feature to be ADDED in the existing SBI Debit (ATM)
Card