

**CONSUMER'S AWARENESS
AND
PERCEPTION ABOUT DEBIT CARD**

A Thesis

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RECOMMENDATION

This is to certify that the thesis

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DECLARATION

I hereby declare that the work done in thesis entitled “**CONSUMER’S AWARENESS AND PERCEPTION ABOUT DEBIT CARD**” submitted to Nepal Commerce Campus, Faculty of Management, Tribhuvan University, is my original work performed, in the form of partial fulfillment of the requirement of Master's Degree in Business Studies (MBS) under the guidance and supervision of Mr. Dhruva Lal Pandey of Nepal Commerce Campus.

Thank you.

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Finally, I would like to express my sincere gratitude to my husband who has supported and encouraged me for completion of this master degree course. Also I would like to express thanks to my family members, my friends for their assistance & encouragement in every step.

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ABBREVIATIONS

a/c	:	Account
ATM	:	Automated Teller Machines
BS	:	Bikram Sambat
BUDBL	:	Business Universal Development Bank Limited
EBL	:	Everest Bank Limited
EBT	:	Electronic Benefits Transfer
e-commerce	:	Electronic Commerce
EFTPOS	:	Electronic Fund Transfer at Point of Sale
E-governance	:	Electronic governance
ePayment	:	Electronic Payment
etc	:	Etcetera
Fig	:	Figure
FIs	:	Financial Institutions
FSS	:	Financial Software and Systems
HSM	:	Hardware Security Module
ID	:	Identification Detail
IIC	:	Institution Identification Codes
ISO	:	International Organization for Standardization
IT	:	Information Technology
Ltd.	:	Limited

NC	:	Nepali Currency
NIBL	:	Nepal Investment Bank Limited
NPN	:	National Payment Network
NRB	:	Nepal Rastra Bank
NTC	:	Nepal Telecom
PIN	:	Personal Identification Number
PNB	:	Punjab National Bank
POS	:	Point Of Sale
Pvt.	:	Private
SCT	:	SmartChoice Technologies (P) Limited
T.U	:	Tribhuvan University
UK	:	United Kingdom
US	:	United States
Vol.	:	Volume
\$:	Dollar
%	:	Percentage
&	:	And
3DES	:	Triple Data Encryption Standard

CHAPTER - I

INTRODUCTION

1.1 Background of the Study

Debit card is one of the most popular forms of payment of consumer goods and services. Debit card is a small plastic card around 8.5cm by 5.5 cm having a magnetic stripe, issued by a bank and financial institution which allows the holder to buy goods and services on debit. It has the name and the date up to which the card is valid will also be embossed. Debit card is a very convenient way to making purchase on debit without carrying cash. The way a normal debit card works on POS is that the cardholder purchase goods by using his /her debit card and the concerned bank pays bill in the behalf of card user to the merchant, which provides the product and services. The bank charges certain percentage from the merchant in return for processing the transaction by paying the purchased amount less banks commission to the merchant's account. From the customer's side the paid amount is deducted from the account which is linked with card.

In today's world, debit cards have been the integral part of people's daily social and professional life. There are different types of cards like credit cards, debit cards, charge cards and so on. The most popular form of card is credit card and debit card. Debit card is an alternative payment method to cash when making purchases. Debit card allows direct access to the account of holder for making purchases or withdrawing cash. Credit card is the card on which certain credit limit is allocated. The cardholder can make purchases and take cash advance on credit basis. The usage of debit card in Nepal is increasing with the increase number of card issuance and card acceptance. It is the latest development of banking product. Due to convenience factor associated with the card, people are getting attracted towards it. The increasing trend of debit card illustrates the same thing.

A commercial bank refers to such type of a bank, which primarily established to perform the functions of accepting deposits and providing loans to customers. Deposits accepted by commercial banks are in the form of saving, current and fixed deposits. The banks advance credit

in the form of short-term credit as well as long-term credit. Bank also perform other subsidiary functions like safety vault, documentary credit, traveler's cheques, payment of bills, purchase of government bond and security, provide bank guarantees, exchange of foreign currency etc. They also provide innumerable number of subsidiary services like SMS Banking, Tele banking, e-banking, Issuance and Acquiring Debit card and Credit card etc.

The introduction of Automatic Teller Machine (ATMs), Point of Sale (POS) and the Plastic Cards have given the banking customers the facility of round the clock (24 hours) banking.

In modern day, with the increasing use of the debit cards, the society is moving towards cashless transactions (When considering only POS). It is one of the highly used and convenient forms of electromagnetic cards that are nowadays available. It has helped to eliminate drawbacks of cash payment system and made life easy and tension free.

1.2 The History of Debit Cards

Debit cards are now used every day in place of cash. Debit cards have made having a bank account much easier. Debit cards are safer than carrying cash and more convenient than using a checkbook. Debit cards helped to change the way that people used money and bank accounts. Debit cards are used to pay for purchases at stores and other locations around the world. A debit card works by debiting the money from your checking account. For many people debit cards have taken the place of cash and checks. However, debit cards are still a relatively new banking tool.

Seattle's First National Bank offered the first debit card to business executives in 1978. Initially they were like a check signature or guarantee card, with which the bank would guarantee that the fund would be paid, but you did not need a check to do the transaction. They also required a large savings account be kept at the bank to cover the funds. These cards were only issued to people who had a long and good standing with the bank, because the funds were not directly debited from the account. These types of cards generally come with the Visa or MasterCard symbol on them.

In 1984 Landmark created the first nationwide debit system, using ATMs and other networks that allowed debit cards to be used nationwide. This allowed the smaller banking systems within

states to connect with banks systems outside of states. As technology improved the debit cards moved to a system that was able to directly debit the money from a checking account. When this happened the debit cards became available to more and more consumers. These types of debit cards may have the Plus symbol or other similar symbols on them. However many banks will also use the Visa or MasterCard symbol for a direct debit card because they are accepted at so many different places around the country.

In 1998 debit card transactions first outnumbered the use of checks around the world. This number has continued to grow over time. Debit cards are now commonly used for most transactions at stores in the United States. Debit cards are more convenient to use than a check. Debit cards speed up transactions at stores. Additionally debit cards are safer than carrying cash, because banks can stop fraudulent purchases and consumers are not held liable for purchases made when the card is stolen. Debit cards have made banking a much easier process for many people.

In the future transactions will continue to move away from cash and check. Debit cards may be left behind as well as banks move to using one card that you can quickly scan at a variety of locations. This will speed up transactions as well as virtually eliminate the need for cash in the future. Over time the history of debit cards may be one step to moving to a completely cashless system.

Since the mid-2000s, a number of initiatives have allowed debit cards issued in one country to be used in other countries and allowed their use for internet and phone purchases.

1.3 Introduction of Debit Card

A debit card (also known as a bank card or check card) is a plastic payment card that provides the cardholder electronic access to his or her bank account(s) at a financial institution. Some cards have a stored value with which a payment is made, while most relay a message to the cardholder's bank to withdraw funds from a payee's designated bank account. The card, where accepted, can be used instead of cash when making purchases. In some cases, the primary account number is assigned exclusively for use on the Internet and there is no physical card.

In many countries, the use of debit cards has become so widespread that their volume has overtaken or entirely replaced cheques and, in some instances, cash transactions. Payments using a debit card are immediately transferred from the cardholder's designated bank account, instead of them paying the money back at a later date.

An electronic card issued by a bank which allows bank clients access to their account to withdraw cash or pay for goods and services. This removes the need for bank clients to go to the bank to remove cash from their account as they can now just go to an ATM or pay electronically at merchant locations. This type of card, as a form of payment, also removes the need for checks as the debit card immediately transfers money from the client's account to the business account.

Debit cards usually also allow for instant withdrawal of cash, acting as the ATM card for withdrawing cash. Merchants may also offer cashback facilities to customers, where a customer can withdraw cash along with their purchase. In a debit card transaction, the amount of a purchase is withdrawn from the available balance in the cardholder's account. If the available funds are insufficient, the transaction is not completed. Also called asset card (in the US), or payment card (in the UK).

1.3.1 Types of Debit Card System

There are currently three ways that debit card transactions are processed: EFTPOS (also known as online debit or PIN debit), offline debit (also known as signature debit) and the Electronic Purse Card System. One physical card can include the functions of all three types, so that it can be used in a number of different circumstances.

Although many debit cards are of the Visa or MasterCard brand, there are many other types of debit card, each accepted only within a particular country or region, for example SCT Network in Nepal, India, Bhutan. FSS in India, Switch(now: Maestro) and Solo in the United Kingdom, Interac in Canada, Carte Bleue in France, Laser in Ireland, EC electronic cash (formerly Eurocheque) in Germany, Unionpay in China, RuPay in India and EFTPOS cards in Australia and New Zealand. The use of a debit card system allows operators to package their product more effectively while monitoring customer spending.

1.3.2 Debit Card Fraud

Debit card fraud happens when a thief “skims” or swipes the information off the magnetic stripe on the back of your card to create a duplicate copy of your card. They also have to capture your PIN to access your account and withdraw money or make purchases. Debit card fraud can also happen if your card is lost or stolen and you haven’t taken steps to protect your PIN.

Nepalese people use debit cards hundreds of times a day at banking machines and cash registers to see their account information and make purchases. While most of these transactions are problem free, there have been a growing number of cases of debit card fraud in recent years. Taking steps to protect your debit card and personal identification number (PIN) will help lower your risk of being a victim of fraud.

Financial institutions may cover losses in cases of fraud occurring in Nepal. It is important to understand that you may be held liable for losses if you are negligent with your PIN and card. In some cases, your losses may be more than the balance in your account if the thief keys in an amount to increase your balance and inserts an empty deposit envelope.

1.4 Statement of the Problems

One of the benefits banks derive from the product of online or internet banking is debit card services. It improved efficiency and effectiveness of their operations so that more transactions can be processed faster and most conveniently, which will undoubtedly impact significantly on the overall performance of the banks. The customers on the other hand, stand to enjoy the benefit of quick service delivery, reduced frequency of going to banks physically and reduced cash handling. However, these developments in the banking industry of Nepal do not seem to have achieved their aims. Queues are still seen in the banking halls, bank customers still handle too much cash, and all people don’t seem to be really enjoying these services of online or internet banking that is available in Nepal. Customer’s support and response to a particular product depend on their level of understanding of the product.

Today debit card has become a synonym for currency notes in foreign countries. In other countries there are cash free zones with all the financial needs being handled by bank cards. But in the context of Nepal it is quite difficult to do so. Card business is fluctuating till now from

beginning. Acquiring volume mostly depends upon arrival of tourists but tourism sector in Nepal is very sensitive to the quickly changing political situations of the country to fully rely upon it. So the concerned banks are forced to find domestic internal user. In this connection, this study is conducted to find out the answers of the following questions:

- What are the factors that affect the consumer perception towards Debit Card?
- What kind of awareness that maintaining the consumer to secure their Debit Card?
- What are the major problems faced by the consumer while using Debit Card?

1.5 Objectives of the Study

The main objectives of the study are:

- To study the consciousness of consumer about debit cards.
- To find out the attitude of card holders towards debit cards.
- To examine the extent of usage of debit cards by card holders.
- To provide suggestions for further improvement.

1.6 Significance of the Study

Technology is developing rapidly so the world around us. Technology is in almost every aspect of our life. Many activities are handled electronically due to the acceptance of technology and the banking sector is matching its steps to the march of technology. Electronic banking allows customer to have direct access to their financial information and to undertake financial transactions with no need to go to the bank. From the banks' viewpoint, debit card is expected to lead to cost reductions and improved competitiveness. This service delivery channel is seen as powerful because it can retain current customers and attract new customers who need and want banking services anytime from any location. Moreover, debit card provides opportunities for the bank to develop its market by attracting new customers. However, this has not been proved yet in Nepal, where many people are illiterate, only few among the literates use computers and even the educated ones demonstrate poor banking habit.

The concept of debit card is very recent to Nepal. For that reason, very rare studies are made on this topic. Therefore, this research aims to assess the awareness level and perception of consumer about debit card. This topic is basically new one for Nepal.

1.7 Limitation of the Study

This research is conducted for partial fulfillment of MBS degree. The research/thesis has to be prepared within limited time constraint and resources.

This study is subject to the following limitations:

- The study covers individual card holders only. Corporate card holders have been excluded from this study.
- Debit card holders of Foreign Sector Banks have not been brought under the purview of the study.
- Debit card holders and non-holders who do not have bank account are not included in this study.
- It used the perception of debit card holder but not the hard data. So, the reliability of research requires further studies.

1.8 Organization of the Study

This dissertation will be presented in the following order:

CHAPTER 1: INTRODUCTION

This is the very first segment of the dissertation, which starts, with the general background of the emergence of debit card. Statement of the problems, objectives of the study, limitation of the study is also presented in this chapter.

CHAPTER 2: REVIEW OF LITERATURE

This segment deals with the review of available literatures in the field of study being conducted. This includes review of the theories of concerned topic, review of books, review of various empirical studies and research gap.

CHAPTER 3: RESEARCH METHODOLOGY

This segment of the study attempts to explain the methodology of the research undertaken. The chapter contains research design, sources of data, population and sample, method of data collection and analysis.

CHAPTER 4: DATA PRESENTATION AND ANALYSIS

This segment presents, analyzes and interprets the study through definite course of research methodology. The observed information is analytically studied and presented here. Along with the tabulated data, a graphical presentation is also made along with the findings and interpretations of the calculated figures.

CHAPTER 5: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The whole study is summarized and concluded in this final chapter. A list of recommendations derived from the analysis is presented at the end of the chapter.

A list of Bibliography is presented after chapter 5 and the necessary supplements are presented in the final segment as the annexure.

CHAPTER – II

REVIEW OF LITERATURE

2.1 Conceptual Review

2.1.1 Concept of Debit Card

In a General sense

Akrani, (2012) “Debit card is a facility or utility provided by banking companies to their customers to help them execute (carry on, perform) different financial transactions anytime and anywhere that too with ease, comfort, speed and safety. Such a customer-friendly facility gives debit cardholders (users) a smarter and secured way to make quick payments while purchasing (i.e. during a sale transaction) various goods and/or services from any merchant (one that accepts a debit card) either from a traditional market or an online market.”

Within a Business perspective

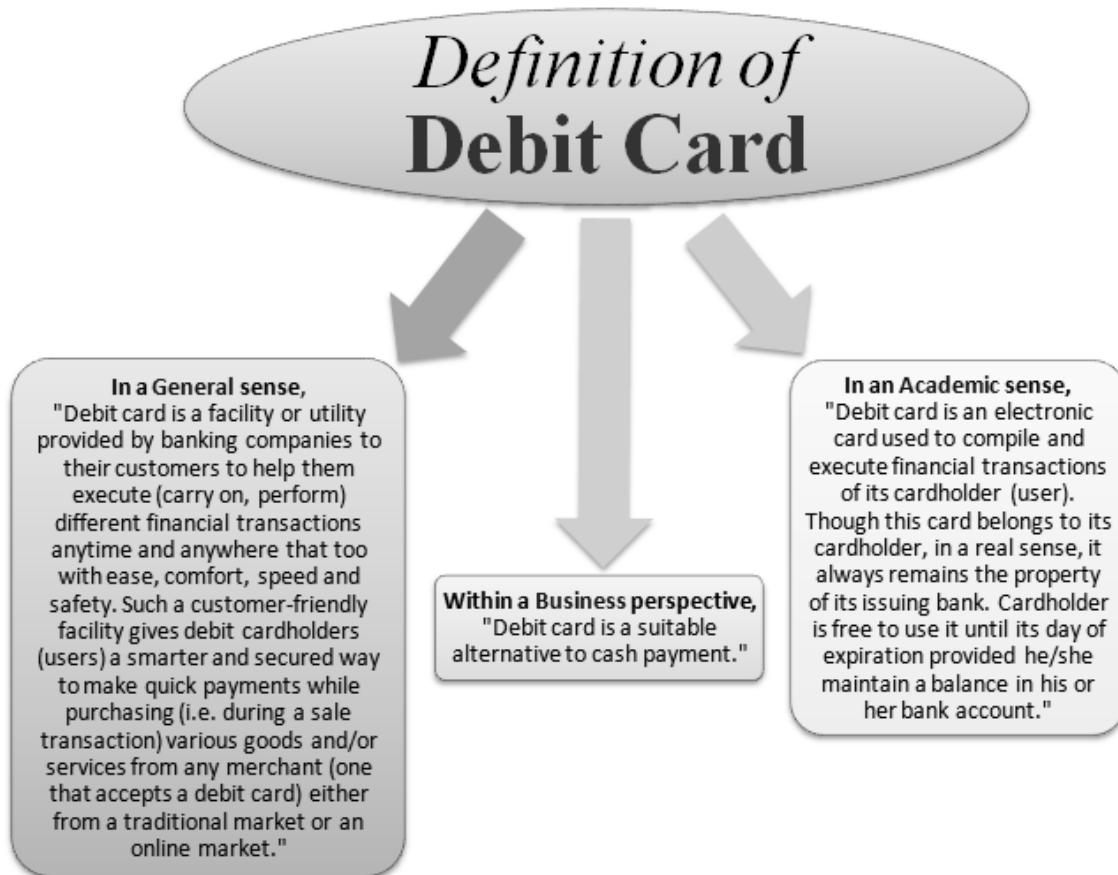
“Debit card is a suitable alternative to cash payment.”

In an Academic aspect

“Debit card is an electronic card used to compile and execute financial transactions of its cardholder (user). Though this card belongs to its cardholder, in a real sense, it always remains the property of its issuing bank. Cardholder is free to use it until its day of expiration provided he/she maintains a balance in his or her bank account.”

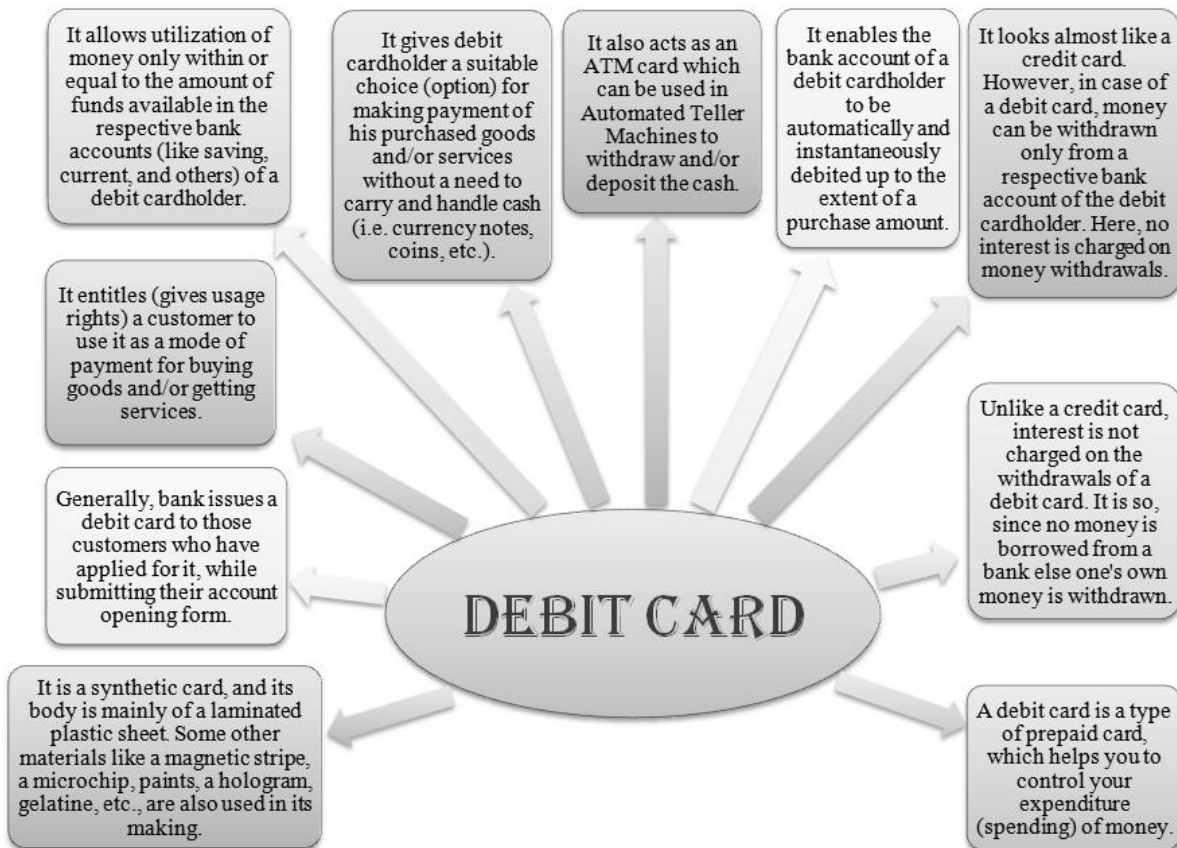
For a quicker reference, the definitions of debit card are also depicted below.

Figure 2. 1 Definition of debit card



The meaning of debit card is depicted in the chart given as follows.

Figure 2. 2 Meaning of debit card



Following ten important points overall explain the meaning of debit card:

- Debit card is a synthetic card, and its body is mainly of a laminated plastic sheet. Some other materials like a magnetic stripe, a microchip, paints, a hologram, gelatin, etc., are also used in its making.
- Generally, bank issues a debit card to those customers who have applied for it, while submitting their account opening form.
- It entitles (gives usage rights to) a customer to use it as a mode of payment for buying goods and/or getting services.
- It allows utilization of money only within or equal to the amount of funds available in the respective bank accounts (like saving, current, and others) of a debit cardholder.

- It gives debit cardholder a suitable choice (option) for making payment of his purchased goods and/or services without a need to carry and handle cash (i.e. currency notes, coins, etc.).
- It also acts as an ATM card which can be used in Automated Teller Machines to withdraw and/or deposit the cash.
- It enables the bank account of a debit cardholder to be automatically and instantaneously debited up to the extent of a purchase amount.
- It looks almost like a credit card. However, in case of a debit card, money can be withdrawn only from a respective bank account of the debit cardholder. Here, no interest is charged on money withdrawals.
- Unlike a credit card, interest is not charged on the withdrawals of a debit card. It is so; since no money is borrowed from a bank else one's own money is withdrawn.
- A debit card is a type of prepaid card, which helps you to control your expenditure (spending) of money.
- Bank card used in cash transactions, but which is not a credit card. In a debit card transaction, the amount of a purchase is withdrawn from the available balance in the cardholder's account. If the available funds are insufficient, the transaction is not completed. Also called asset card (in the US), or payment card (in the UK).

2.1.2 Debit Card Transaction

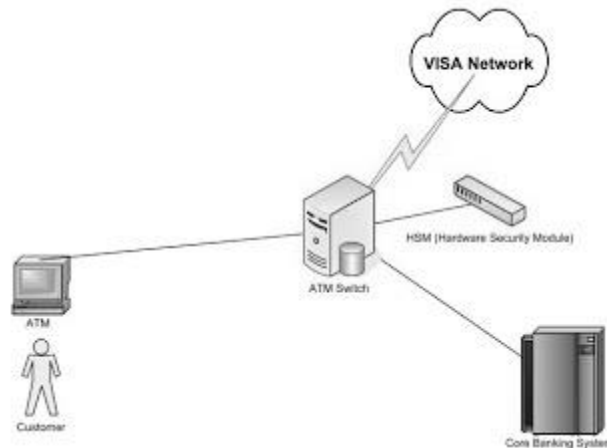
Silva, (2011) The debit card transaction flow is a rather simple process that begins at the point of checkout. When someone chooses to use a debit card to make a purchase, the retailer simply swipes the debit card, or in most cases, the customer themselves will swipe their debit card at a debit/credit point of sale available at the register. The customer then inserts their PIN number and the money for the purchase is deducted directly from the customer's bank and transferred electronically to the retailer's bank account.

There are two main categories of transactions initiated from an ATM,

ONUS – Card and ATM from same financial institute (For Example: EBL ATM card on EBL Bank's ATM)

OFFUS – Card and ATM from different financial institutes (For Example: EBL's ATM card on Nabil Bank's ATM)

Figure 2. 3 ATM Network



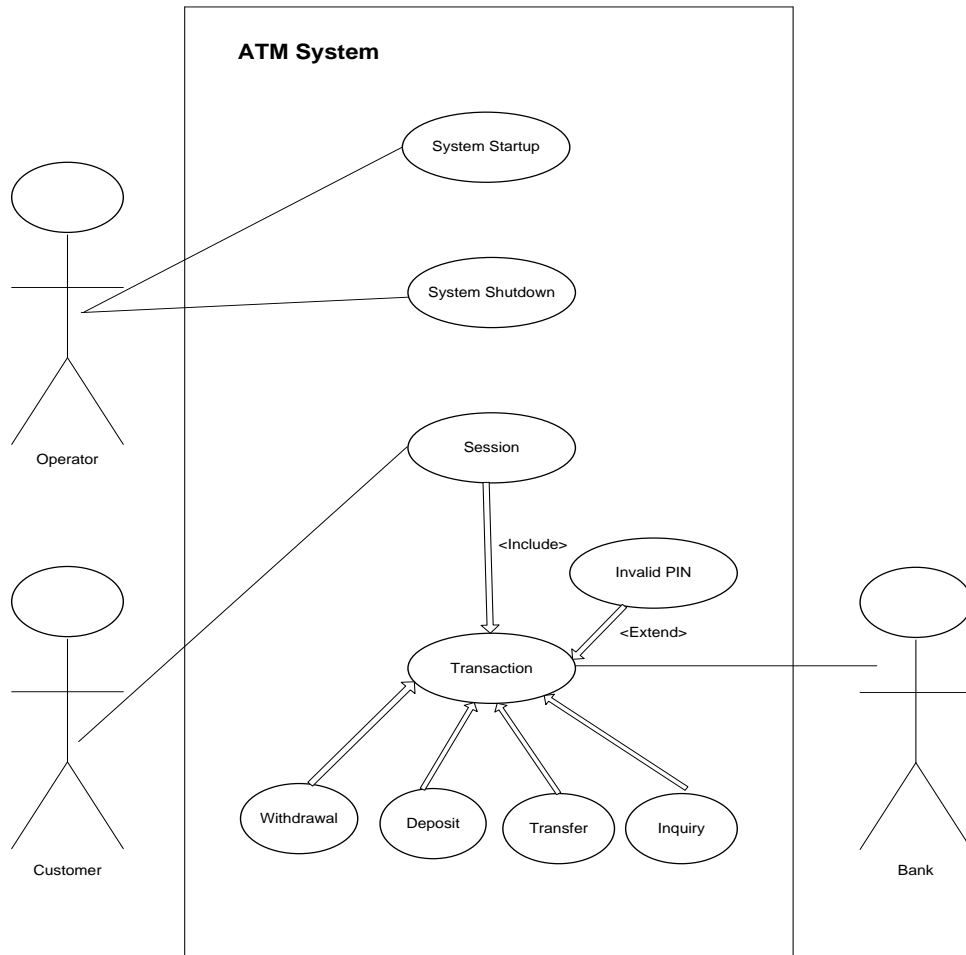
Detailed transaction flow of an ATM (ATM screen flow could change from ATM to ATM. Therefore this is a generic flow almost all ATMs are based on)

ONUS -Customer inserts a card to the ATM > Enters the PIN > transaction > select the account > enter other required details for the transaction (For Example: for a withdrawal, withdrawal amount). Then a message will be generated and sent to the ATM switch (PIN is encrypted) > ATM switch will send the encrypted PIN to the HSM > HSM will respond whether its correct or not > If the PIN is incorrect transaction will get voided and the customer will be asked to enter the PIN again > If the PIN is correct the transaction will be forwarded to the Core Banking System > The Core Banking System will check the customer account and approve or disapprove the transaction > if the transaction is disapproved a message will be shown on the ATM screen, mostly a descriptive message > if the transaction is approved the switch will instruct the ATM how to proceed (For Example: for a withdrawal the switch will tell the ATM to dispense number of bill from Bins). Apart from the above process there will be additional messages between the ATM machine and the ATM switch. This is to get a list of accounts attached for the card. This is not available in OFFUS transactions. Therefore, customers will be able to transact from their primary accounts only (One account for savings and one account for current).

OFFUS-Another banks customer inserts ATM card > The ATM switch will forward the transaction to proper (VISA or SCT) network > the network will do the necessary currency conversions and forward it to the issuing bank.

2.1.3 Flow of Transaction

Figure 2. 4 ATM System



Source: Smart Choice Technologies P Ltd., Internal document: 2013

The authorization

When the customer swipes his card at the ATM, the Acquirer kicks the transaction up to the card-issuing bank, which gives it an authorization number.

"At that point, "the money is not out of your account yet, but it's been tagged at the bank. So for all practical purposes, it's gone."

With the money set aside, the card-issuing bank's reply to the transaction request is sent back the way it came -- via the networks, to the Acquirer and then on to the ATM.

Let's say this time the customer asks for Rs.5000 when there is only Rs.4500 in the respective account. The card-issuing bank tells the Acquirer 'No way,' and the ATM declines the deal, saying there are insufficient funds to cover it.

Chances are at this point, the customer will do a balance inquiry to find out how much money really is in his account. And once he knows it's less than he requested, he may do a balance transfer to put more money in, or he may decide to withdraw an amount under the 4500, so it will clear.

Or the cardholder may have made previous arrangements with his bank for his credit card or savings account to make up the difference in case of a short fall.

Whatever the case, all this takes place on the Authorization side of the ATM transaction.

Transaction completed? Not totally.

The Settlement

The cash that was dispensed at the ATM actually came right out of someone's pocket (the owner of the cash) as a loan to the cardholder. Along with any earned fees, this money must be paid back.

Technically, this is called the Settlement side of the equation. Everything related to it harks back to the banks.

The thing to keep in mind is that "the networks were all started by financial institutions (FIs). So everything is geared towards how they think."

From a legal perspective, every action that a processor takes is on the behalf of some Federally Chartered financial institution. That FI (financial institution) typically is called the "sponsor" and many times also acts as the settlement bank.

Every processor in Nepal has a sponsor Switch Vendor standing squarely behind it, authorizing each and every move.

Let's look at a typical situation. The Issuer and the Acquirer transact business throughout the day. At the close of day, several things have to occur, depending on your perspective. In this case, the focus is on the Acquirer.

The Acquirer must perform two distinct functions. First, he must collect funds from the Issuer. Secondly, he must disburse funds to the owner of the cash. Typically, the collection of funds is in a lump sum, and the disbursement (or settlement) of funds is itemized per ATM.

All processors are acting on behalf of a bank. These are financial transactions that are governed and authorized by the laws of the Nepal Rastra Bank. Every withdrawal at an ATM is a banking transaction, and compliance with every law governing such transactions must be observed.

The Authorization and the Settlement play an important role in a carefully crafted system that works consistently to the ATM customer's advantage.

The Acquirer is right in the middle of all this, making sure the cash flows smoothly -- out of the cardholder's bank account and back into the cash-owner's hands. Still, this is a banking game. Processors are only participants. They may be leading the charge, but the banks still make the rules.

System Startup

The system is started up when the operator turns the operator switch to the "on" position. The operator will be asked to enter the amount of money currently in the cash dispenser, and a connection to the bank will be established. Then the servicing of customers can begin.

System Shutdown

The system is shut down when the operator makes sure that no customer is using the machine, and then turns the operator switch to the "off" position. The connection to the bank will be shut down. Then the operator is free to remove deposited envelopes, replenish cash and paper, etc.

Session

A session is started when a customer inserts an ATM card into the card reader slot of the machine. The ATM pulls the card into the machine and reads it. (If the reader cannot read the card due to improper insertion or a damaged stripe, the card is ejected, an error screen is displayed, and the session is aborted.) The customer is asked to enter his/her PIN, and is then allowed to perform one or more transactions, choosing from a menu of possible types of transaction in each case. After each transaction, the customer is asked whether he/she would like to perform another. When the customer is through performing transactions, the card is ejected from the machine and the session ends. If a transaction is aborted due to too many invalid PIN entries, the session is also aborted, with the card being retained in the machine.

The customer may abort the session by pressing the Cancel key when entering a PIN or choosing a transaction type.

Transaction

A transaction use case is started within a session when the customer chooses a transaction type from a menu of options. The customer will be asked to furnish appropriate details (For Example: type of account(s) involved, amount). The transaction will then be sent to the bank if switch level verification is completed, along with information from the customer's card the customer entered.

If the bank approves the transaction, any steps needed to complete the transaction (For Example: dispensing cash or accepting an envelope) will be performed, and then a receipt will be printed. Then the customer will be asked whether he/she wishes to do another transaction.

If a transaction is cancelled by the customer, or fails for any reason other than repeated entries of an invalid PIN, a screen will be displayed informing the customer of the reason for the failure of the transaction, and then the customer will be offered the opportunity to do another.

The customer may cancel a transaction by pressing the Cancel key as described for each individual type of transaction below.

All messages to the bank and responses back are recorded in the ATM's log.

Withdrawal Transaction

A withdrawal transaction asks the customer to choose a type of account to withdraw from (Saving or Current) from a menu of possible accounts, and to choose a NC amount from a menu of possible amounts. The system verifies the switch level verification before sending the transaction to the bank. After sending the transaction to the bank, if the transaction is approved by the bank, the appropriate amount of cash is dispensed by the machine before it issues a receipt. (The dispensing of cash is also recorded in the ATM's log.)

A withdrawal transaction can be cancelled by the customer pressing the Cancel key any time prior to choosing the amount.

Deposit Transaction

A deposit transaction asks the customer to choose a type of account to deposit to (Saving or Current) from a menu of possible accounts, and to type in a NC amount on the keyboard. The transaction is initially sent to the bank to verify that the ATM can accept a deposit from this customer to this account. If the transaction is approved, the machine accepts an envelope from the customer containing cash and/or checks before it issues a receipt. Once the envelope has been received, a second message is sent to the bank, to confirm that the bank can credit the customer's account - contingent on manual verification of the deposit envelope contents by an operator later. (The receipt of an envelope is also recorded in the ATM's log.)

A deposit transaction can be cancelled by the customer pressing the Cancel key any time prior to inserting the envelope containing the deposit. The transaction is automatically cancelled if the customer fails to insert the envelope containing the deposit within a reasonable period of time after being asked to do so.

Transfer Transaction

A transfer transaction asks the customer to choose a type of account to transfer from (Saving or Current) from a menu of possible accounts, to choose a different account to transfer to, and to type in a NC amount on the keyboard. No further action is required once the transaction is approved by the bank before printing the receipt.

A transfer transaction can be cancelled by the customer pressing the Cancel key any time prior to entering an amount.

Inquiry Transaction

An inquiry transaction asks the customer to choose a type of account to inquire about from a menu of possible accounts. No further action is required once the transaction is approved by the bank before printing the receipt.

An inquiry transaction can be cancelled by the customer pressing the Cancel key any time prior to choosing the account to inquire about.

Invalid PIN

An invalid PIN extension is started from within a transaction when the switch reports that the customer's transaction is disapproved due to an invalid PIN during switch level verification. The customer is required to re-enter the PIN and the original request is sent to the ATM machine again. If the switch now approves the transaction, or disapproves it for some other reason, the original use case is continued, otherwise the process of re-entering the PIN is repeated. Once the PIN is successfully re-entered, it is used for both the current transaction and all subsequent transactions in the session. If the customer fails continuously four times to enter the correct PIN, the card is permanently retained, a screen is displayed informing the customer of this to displaying like: you have exceeded attempt and suggesting he/she contact the bank, and the entire customer session is aborted.

If the customer presses Cancel instead of re-entering a PIN, the original transaction is cancelled.

2.1.4 Actual Scenario of Card Transaction

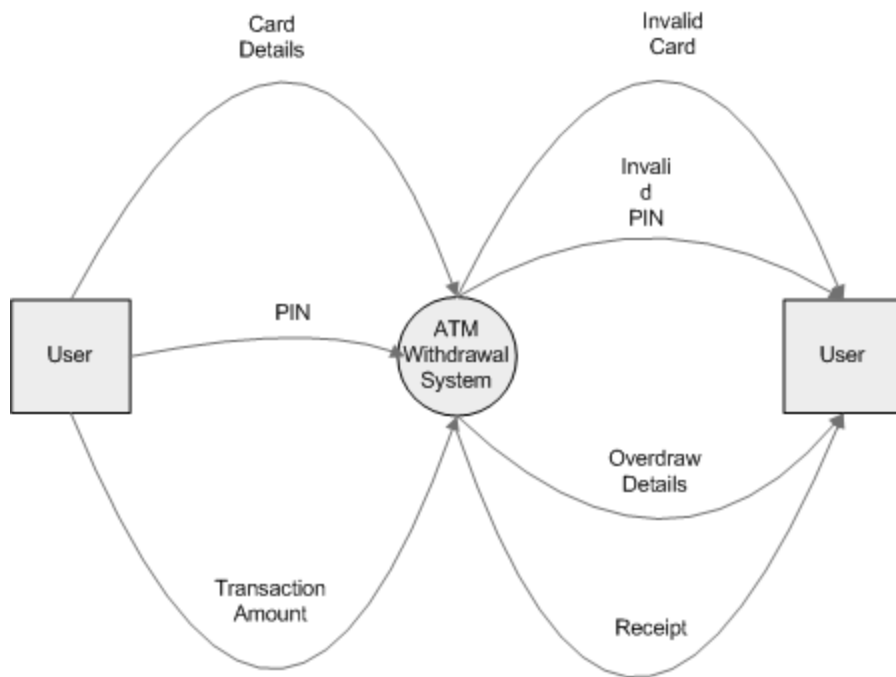
Withdrawal of Cash from an Automatic Teller Machine

To start an operation, a card is inserted in the slot, and the PIN (personal identification number) is entered. The ATM reads information from the card, in particular, the card number and the expiry date, and accepts the PIN from the keyboard input. The card is verified for expiry date, and then if valid, the transaction process sent to the bank for account validation by communication circuit. The bank either sends confirmation or refusal.

If confirmation is received, the user is invited to enter a transaction type. Assuming that the transaction is a withdrawal of cash, one more validation is performed to check that the amount nominated is below or equal to the daily limit for withdrawals of NC 5000, that the user's daily withdrawals do not exceed the daily limit of 50000, and that the account balance is in credit to cover the withdrawal. If all these are okay the card is returned, the money is dispensed and the withdrawal receipt is printed, with the date, masked card number, withdrawal amount and account balance. The bank's account records are updated to reflect the transaction.

If the card has expired or is invalid, the card is retained and the user is invited to contact their bank. If wrong PIN is entered continuously four times the card is returned and the transaction is cancelled. If the amount entered exceeds the user's account balance, or the daily or weekly limits, the user is asked to change the amount or cancel the transaction. If a valid transaction amount has not been entered by the particular number of attempt (is set different for institution wise as they defined), the card is returned and the transaction is cancelled.

Figure 2. 5 Flow of withdrawal from ATM



Source: Smart Choice Technologies P Ltd., Internal document: 2013

2.1.5 How to Use a Debit Card

BR, Chris, Harri, Jmuddy95, (2011) Nowadays, more and more people are using debit cards as a mode of payment. A reason for this is the convenience and speed of payment that it offers. Similar in look to a credit card, a debit card differs in that it is linked directly to a fund source such as a savings or a checking account. When the debit card is used, the payment is automatically deducted from the fund. However, caution and discipline should still be maintained in ensuring that all debit card purchases are tracked, and that any purchases made fall within the limits of the amount of cash in the fund source.

Steps :

There are many steps to successfully completed the debit card transaction. These are as follows:

Step 1: Activate the debit card with the bank where you obtained it from

Upon receipt of the debit card from your bank, make sure to activate it to make it ready for use. This can normally be done by contacting the number of the bank's assistance center listed on the back of the debit card or you can directly contact with bank's counter.

Step 2: Make sure that you have enough cash in the account linked to the debit card to fund for your purchases

Whereas you can use a credit card to make purchases even if you do not have enough funds in your account at the moment, for a debit card, you can typically only make as much purchases as the amount of funds you have in your account. In some cases, in other countries except Nepal, you can make purchases higher than the amount left in your account, but these would result in overdraft fees. Check that the fund in your account is not below the amount that you intend to spend, in order to maximize the use of the debit card.

Step 3: Know the PIN number of your debit card

A debit card would usually come with a four-digit PIN (Personal Identification Number), which you can change to another number that you can easily remember. Some institutions are highly recommended that their customer to change the PIN number after first used and destroy the pin mailer or pin slip. Make sure that you have memorized your PIN, and that you do not disclose it

to anyone. As much as possible, avoid writing down your PIN. If you must write it, keep the written PIN in a separate place from your debit card. Try to choose a number combination as well which will not be very easy to guess, should other people come in possession of your debit card.

Step 4: Hand your debit card to the cashier of the store where you are making a purchase

The cashier will swipe the debit card through the card reading machine also called POS (Point Of Sale). The card reader will then present an option whether to pay through debit or credit. Even if you are using a debit card, you can still opt to pay through a credit method.

Debit: Verify that the amount of purchase entered in the card reader is correct. The card reader will then prompt you to enter your PIN. If you choose the debit option, you can normally opt for cash back as well. Instead of having to go to the ATM to get extra cash, cash back allows you to obtain the cash along with your purchase. The cash will be deducted from your account as well.

Credit: Verify that the amount of purchase entered in the card reader is correct. Instead of having to input a PIN, you will be asked to sign the receipt, but the purchase amount will still be automatically deducted from your account.

Step 5: Check that your transaction has been approved

A notice will be sent in the card reader indicating if your transaction has been approved. If it has not been approved, it is likely that you do not have sufficient funds in your account to make the purchase or there is any system problem.

Step 6: Keep track of the purchases that you make with your debit card

It is always a good idea to log the expenses you pay with your debit card, to keep your spending patterns in check. Even if you would not incur debts as you might have with a credit card, forgetting to keep track of your debit card purchases might lead you to spend more than what you intended to, and leave you with less funds than you expected in your account.

2.1.6 How Debit Cards Work

Debit cards give us a fast, easy and secure way to make a purchase or withdraw cash. Here's how they work. When you use your debit card to buy something or withdraw money from an ATM, the transaction usually takes three important steps:

Step 1: The transaction is forwarded through what is called a payment processor.

Step 2: The processor routes the transaction to an ATM/debit network.

Step 3: The network then sends the transaction to your bank or credit union. Your financial institution verifies the availability of funds and then approves or declines the transaction.

Figure 2. 6 Working mechanism of card with middleware

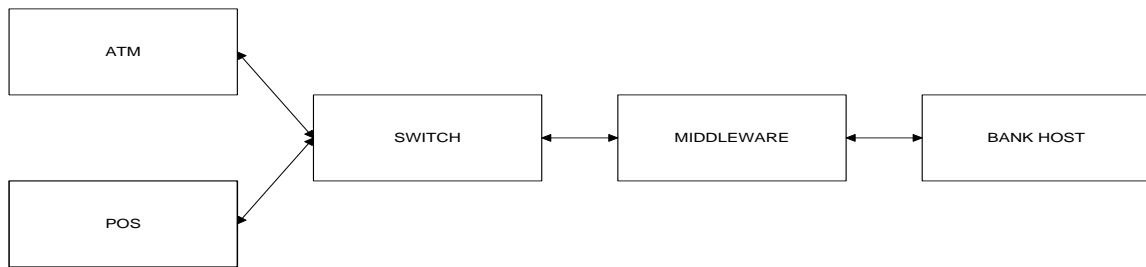
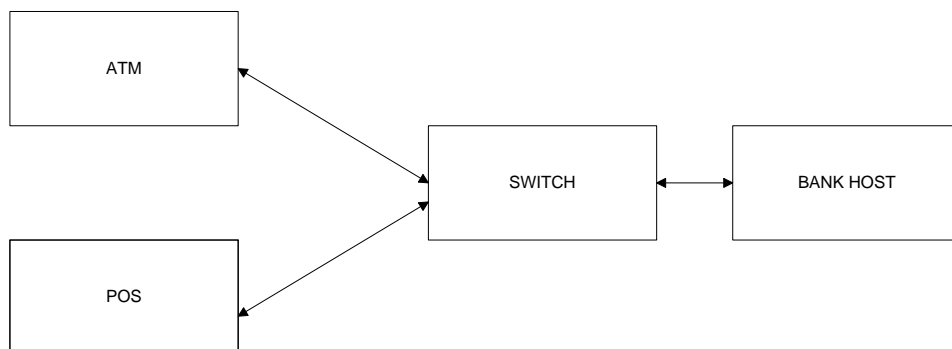


Figure 2. 7 Working mechanism of card without middleware



Source: Smart Choice Technologies P Ltd., Internal document: 2013

2.2 Types of Debit Cards

Debit cards are available to fit a variety of financial needs and lifestyles. Whether you are a recent grad, or a more established consumer with a mortgage and other commitments, debit cards give you safe and convenient way to make payments or get cash. Debit cards offer freedom, flexibility and security and they can be a great way to take care of business online or on the go. Debit transactions are ideal for many everyday needs, from buying event tickets, paying at the pump or getting cash for a night out with friends.

There are several types of debit cards and debit transactions available to us.

Today, many banks and credit unions give you the option of having a personal identification number (PIN)-only debit card (also known as a basic “ATM card”) or a dual-use debit card. Dual-use debit cards allow you to make both PIN-based and signature purchase transactions as well as cash withdrawals.

Here’s a quick peek at the world of debit cards.

PIN-only cards

PIN-only debit cards are linked to your bank or credit union account. You can use a PIN-only card to get cash from an ATM, make deposits, transfer funds between accounts, buy goods or services from retailers and pay certain bills online or by phone. When you use a PIN-enabled debit card, you enter your PIN at the ATM or retail location – a step that verifies your identity and increases the security of the transaction.

Dual-use cards

Dual-use debit cards are both signature- and PIN-enabled, and are tied directly to your financial institution account. So if you are in a restaurant or clothing store, you can choose to authorize a purchase by entering your PIN or by signing a receipt. Dual-use debit cards also can be used to make some payments online or over the phone. They are great for ordering take out, buying tickets, even paying regular monthly bills. Enter your PIN to get cash or manage your accounts.

PIN-based transactions:

With secure PIN-based debit, you enter your PIN to get cash from an ATM, make purchases at any PIN-equipped retail location or get cash back from many retailers. Your transaction request is processed immediately and is reflected in your account almost instantly.

Signature-based transactions:

You can also make in-store debit purchases by signing the receipt. It's just like buying with a credit card, except that with a debit card, the funds are taken straight from your account rather than borrowing the money from a financial institution. Most signature debit transactions show up on your account within a few days. You can make signature-based transactions at retailers and service providers across the country.

Other transactions:

You can authorize debit transactions in several other ways.

Card-not-present purchases: For online or phone-based purchases, you complete a "card-not-present" transaction without providing your PIN or signing a receipt. It's like a phone or online credit card purchase, except the funds are taken directly from your checking account.

Debit direct: Debit cards also offer a quick and easy way to make regular payments – like your gas or electric bill, rent, mortgage, car insurance or student loan bills – online or over the phone. In fact, a growing number of cities, property managers and lenders now let you make automatic debit direct payments from your checking account. Debit direct can be a smart and simple way to manage your bills.

EBT cards

Electronic Benefits Transfer (EBT) cards are provided by many state or federal government agencies to people who qualify for cash payments, food stamps or other benefits. Depending on the type of government program, an EBT card may be used to make purchases at participating retailers or to withdraw cash from an ATM.

Prepaid cards

Prepaid cards are not associated with any specific account, but instead provide access to funds deposited directly on the card by you or a third party – like a store, friend or family member. When you make a purchase with a prepaid card, funds are taken directly from the actual balance on the card. Of course, you can spend only the amount of money stored on the card.

Examples of prepaid cards include:

- Gift cards from a bookstore, department store or online retailer.
- Family or personal spending cards.
- Travel cards.
- Flexible spending or health savings cards.
- Payroll cards from an employer.

2.3 ISO Message Specification for Debit Card Transaction

ISO 8583 Financial transaction card originated messages — Interchange message specifications is the International Organization for Standardization, standard for systems that exchange electronic transactions made by cardholders using payment cards. It has three parts:

Part 1: Messages, data elements and code values.

Part 2: Application and registration procedures for Institution Identification Codes (IIC).

Part 3: Maintenance procedures for messages, data elements and code values.

2.3.1 Debit Card Transaction Sample Message

```
11.09.15 12:57:26 [ ToIso:1413230]***** OUTBOUND MESSAGE
ID[ZXIACXBQTnGIWQAA] *****
```

```
msgno[ 0]<200>
```

```
Bitmap: [f23a448128e0900000000000400000]
```

```
out[129: ]<0200>
```

out[129:]<F23A448128E09000>
out[129:]<0000000004000000>
out[2:]<16>
out[2:]<6062880010000203>
out[3:]<301000>
out[4:]<000000000000>
out[7:]<0915>
out[7:]<124512>
out[11:]<123456>
out[12:]<124512>
out[13:]<0915>
out[15:]<0915>
out[18:]<6011>
out[22:]<901>
out[25:]<02>
out[32:]<06>
out[32:]<636276>
out[35:]<35>
out[35:]<6062880010000203=130502000000000000>
out[37:]<303039353130313233343536>
out[41:]<JBL30101>

out[42:]<SCT HBL JBLKTM>

out[43:]<SCT JBL KATHMANDU NPL>

out[49:]<524>

out[52:]<B840A8FB549BA3A0>

out[102:]<19>

out[102:]<00001-DP001-0005375>

.....

11.09.15 13:12:21 [FromIso:1413230]***** INBOUND MESSAGE

ID[ZXIAFZBuTnGo2QAA] *****

in[129:]<210>

in[129:]<F23A44812AE09400>

in[129:]<0000000004000000>

msgno[0]<210>

Bitmap: [f23a44812ae094000000000004000000]

in[2:]<16>

in[2:]<6062880010000203>

in[3:]<301000>

in[4:]<3030303030303030303030303030>

in[7:]<915>

in[7:]<124512>

in[11:]<123457>

in[12:]<124512>
in[13:]<915>
in[15:]<915>
in[18:]<6011>
in[22:]<901>
in[25:]<2>
in[32:]<6>
in[32:]<636276>
in[35:]<35>
in[35:]<6062880010000203=13050200000000000000>
in[37:]<009510123457>
in[39:]<00>
in[41:]<JBL30101>
in[42:]<SCT HBL JBLKTM>
in[43:]<SCT JBL KATHMANDU NPL>
in[49:]<524>
in[52:]<B840A8FB549BA3A0>
in[54:]<40>
in[54:]<10>
in[54:]<1>
in[54:]<524>

in[54:]<43>

in[amount:]<000016154929>

in[54:]<10>

in[54:]<2>

in[54:]<524>

in[54:]<43>

in[amount:]<000016175229>

in[102:]<19>

in[102:]<00001-DP001-0005375>

in[amount:]<000000000000>

Source: Smart Choice Technologies P Ltd., Internal document: 2013

2.4 Debit Card Service Provider in Nepal

Currently, there are mainly two big companies having national switch and providing the debit card service in Nepal.

- SmartChoice Technologies (P) Ltd. (SCT Network)
- National Payment Network (NPN)

In Today's scenario the technology has become far more advanced and the trend of using cards has become popular ubiquitously. As a result, the card's consumer is increasing as well.

(2013) According to Nepal Rastra Bank, on the fiscal year 2068/69, there are all together below numbers of institutions, ATM counters and debit card holders in Nepal.

Table 2. 1 Scenario of ATM card holders

Institutions	Numbers of Banks	Number of Branches	Number of ATM Counters	Number of Debit Card Holder
Commercial Bank	31	1489	1200	2752960
Development Bank	90	721	181	265557
Financial Institution	70	303	90	104990
Total	191	2513	1471	3123507

Source: Nepal Rastra Bank, published document: 2013

2.4.1 SCT Network

SmartChoice Technologies (P) Ltd. is a company registered in Nepal and promoted by well-established entrepreneurs. The company was established in 2001.

Before SCT Network Established: There were only 15 commercial banks providing banking services in Nepalese Market. Security and earning interest from those deposit amounts is primary concern of customer. Banks provided cheque is only one medium to withdraw those deposited amount and only from particular branch where he/she has opened account. While travelling different places, people used to carry physical cash due to which they have faced various problems. In Nepalese Market there were only 100-150 POS Machine (acquired by Himalayan, Nabil & Greenlays and Alpine) and 4 ATM (Acquired by Himalayan Bank).

After SCT Network established on 2001: When the SCT was entered in the Nepalese market there was no other National payment switch in Nepalese market. As the concept was totally new and outsourcing concept was not in Nepalese market so many financial institute were feeling hesitate to join SCT Network. However SCT never stops for informing those financial institutes about importance of ePayment technology in Nepalese market. Himalayan bank on 2002 has joined SCT Network by becoming first bank to join SCT. SCT has deployed 28 ATMs itself to

create market for such debit card services in those ATMs cash management have done by particular member banks. Also about 200 POS machine was deployed in the Nepali market through its member banks for easily payment through SCT debit card and VISA Master Cards.

The company has deployed a first-of-its-kind initiative in Nepal creating an integrated shared services network (SCT-Network) for Automated Teller machines (ATMs) and Point-of-sale (POS) Terminals, managed through a national switch. The SCT-Network is a fully integrated network supporting multiple device types and card acquiring standards.

This network has been made available, on a subscription basis (pay-per-use), to banks and financial institutions across the country. Besides the network, this national switch will also operate and manage domestic & international gateways and settlement systems. For inter-bank settlement, the company has appointed a settlement bank, which is responsible for the daily settlement of all ATM transactions on the network.

The company has also launched a local debit card program (branded as SCTTM) to enable banks to issue cards to customers at a fraction of the costs typically associated with international card schemes. The local debit card program offers a first-time opportunity for banks to issue and manage a local debit card program, with wide acceptability (due to the ATM & POS Network in Nepal and India and regional countries at a subsequent date).

In addition, the company also provides a secure facility for Card and PIN production & management, customized for each bank. This facility is equipped with world standard Hardware Based Encryption (RACAL-HSM) supporting the latest (For Example: 3DES) encryption standards.

The project also includes integration of ATMs and POS banks may have already invested in, and enable them to recover their investments on a significantly accelerated basis. The technology used in this project is tried and tested in many sites overseas and consequently mitigates the risk of technology failure that is typically associated with new technologies.

Under the SCT Network, there are 16,00,000 customers which is still growing and 1200 ATMs available in the market. The company also has installed over 2000 of its own POS Terminals in

Kathmandu Valley and Pokhara. These terminals have been installed at shops, department stores, hotels, restaurants and service outlets that typically attract retail clientele.

There are many member banks of SCT Network. They provide different kind of facility and withdrawal limits as per the card issuing banks.

Member Banks of SCT Network (Up to 2 Oct 2013)

Commercial Banks: 23

Development Banks: 37

Financial Institutions: 21

Changes in human behavior due to SCT Network:

We have found lot of changes in human life style through SCT debit card which can be listed as below:

- Previously the customer don't have any concern about card services but now most of the customer looks whether there is debit card services are available or not before opening the account in particular banks.
- ATM/POS/ecommerce is in the reach of general public of Nepal.
- People can able to withdraw amount from anywhere and any bank ATM which are in SCT Network.
- Flow of e-cash increases due to its smooth and secure transaction.
- Various problems such as health hazard, fake notes issues and paper note life are being solved due to online payment services. Consciousness on using debit cards securely has increased.

Different financial institutions set different withdrawal limit and different kind of facilities provided to their customers. For example one of the SCT's member bank is Everest Bank Limited.

Catering to more than 5.5 lacs customers today, Everest Bank Limited (EBL) is a name we can depend on for professionalized and efficient banking services. Founded in 1994, the bank has been one of the leading banks of the country and has been catering its services to various

segments of the society since then. With clients from all walks of life, the bank has helped develop the nation corporately, agriculturally and industrially.

EBL Debit Card

EBL debit card is a plastic card which provides an alternative payment method to cash when making purchases or cash withdrawal from ATM centers. EBL Debit Card is your key to ultimate convenience regarding day to day monetary transactions providing you the power of real cash in form of card. Associated with Smart Choice Technology (SCT), it facilitates wide sharing of ATMs under SCT network from more than 1200 Locations throughout Nepal.

Functionally, it can be called an electronic check, as the funds are withdrawn directly from the bank account.

Everest Bank Ltd (EBL), a joint venture partner of Punjab National Bank (PNB) is always committed towards excellent service for the people who believe in quality banking. Introduction of EBL Debit card is a step in the same direction. EBL debit card holder can also have the withdrawal facility from over 6050 PNB ATM in India.

Eligibility for the EBL debit card

EBL Debit card is eligible for all existing customers of Everest Bank Ltd. The individual customers having Saving Account, Current Account and Saving Premium Account maintaining the minimum balance is eligible for the EBL Debit Card. New customers, who have opened their accounts after launch of EBL debit card, shall also be eligible for the issuance of debit card at the time of opening the account itself.

EBL Debit card can also be issued in joint accounts. It can be issued to both the account holders and they may operate their transaction through ATM into the same account.

In joint accounts where account has to be jointly operated, Debit Card shall not be issued unless mandate for operation of account is changed to "Either or Survivor" basis.

EBL ATM Centers throughout Nepal:

Inside Kathmandu Valley

Outside Kathmandu Valley

Facility and Charges for EBL Debit Card Withdrawal from INDIA (PNB ATM):

Everest Bank Ltd. recorded pioneering achievement in the field of ATM service by tying-up with Punjab National Bank (PNB) for enabling operation of ATM cards of SCT member banks of Nepal at PNB ATMs in India and vice versa through SCT – FSS switch sharing arrangement.

With this arrangement, ATM cardholders of SCT member banks are able to draw cash and inquire account balances from more than 1000 PNB ATM machines spread over throughout India. Similarly, ATM cardholders of PNB are able to draw cash and inquire account balances from ATM machines of SCT member banks associated under the arrangement in Nepal.

An EBL debit cardholder could draw cash from PNB ATMs in India with withdrawal charge of NPR 200/- per transaction and charge of NPR 24/- per balance inquiry. The maximum limit of withdrawal per transaction is NPR 16,000/- and per day limit is NPR 16,000/-. (In India), whereas monthly limit is NPR 160,000.00.

Similarly, a PNB debit cardholder could draw cash from EBL ATMs in Nepal with withdrawal charge of INR 50/- per transaction and charge of INR 15/- per balance inquiry.

Features of EBL Debit Card:

- Can be accessed in India through any of Punjab National Bank's ATMs.
- No charges are levied for using EBL Debit card at EBL's ATM counters.
- Cash withdrawal at other SCT Network ATMs other than EBL's ATM counter: Rs. 25 per transaction.
- Charges of Balance Inquiry from EBL ATM: - Free for first balance inquiry per day and NPR 2/- per inquiry for next inquiry onward.
- Charges of Balance inquiries through SCT ATMs: NPR 3/- per inquiry.
- Charge for issuing a fresh pin: NPR 50.00.
- Charge for lost card: NPR 200.00.
- Annual Charge: NPR 100.00.
- POS Transaction charges: Nil.

Transaction Limit

- Maximum withdrawal limit per transaction Rs. 16,000.00
- Maximum limit of withdrawal for the day Rs. 1,00,000.00
- We can access our EBL Debit Card at any ATMs of SCT Network 24 hours everyday.
- EBL Debit card shall be issued free of cost for to all the Saving Premium account holders.

2.4.2 National Payment Network (NPN)

National Payment Network (NPN) is a shared payment gateway in Nepal. Several banks and financial institutions have joined the network for the interoperability of their card systems. NPN member banks are issuing cards under "National" brand, which can be used in any of the ATMs of the NPN member banks. Currently following transactions can be performed through NPN network:

- Cash Withdrawal
- Balance Enquiry

Charges for availing the above services are defined by respective card issuing banks or member banks of NPN.

Member Banks of NPN (Up to 2 Oct 2013)

Commercial Banks: 11

Development Banks: 15

Financial Institutions: 11

For example, the charges and services of one of the NPN member bank Business Universal Development Bank Ltd. (BUDBL).

Business Universal Development Bank has work in partnership with National Payment Network (NPN) which has a large number of ATM and POS terminals in and outside the valley. BUDBL NPN ATM Card can also be used in other bank's terminals as well. Our customers can withdraw fund using Business Universal Development Bank's ATM Card from any of the ATM having

NPN & VISA Electron, & VISA logo. Similarly, this card can be used to make payment in stores, restaurants and any other POS who accepts the NPN VISA/ Visa Electron card.

- Open 24 hours a day, 7 days a week, 365 days a year.
- Cash Withdrawal
- Fast Cash
- Mini Statement
- Balance Inquiry
- Pin Change
- Payment for purchase of goods/services at the merchant locations (through POS)
- NTC Post-paid Mobile Bill Payment (Near Future)
- NTC Pre-paid Mobile Recharge (Near Future)

Currently, there are list of banks in Nepal which have own switch. These are as follows:

- Bank of Kathmandu Ltd.
- Civil Bank Ltd.
- Global IME Bank Ltd.
- Himalayan Bank Ltd.
- KIST Bank Ltd.
- Laxmi Bank Ltd.
- Machhapuchchhre Bank Ltd.
- Nabil Bank Ltd.
- Siddhartha Bank Ltd.
- Sunrise Bank Ltd.

Those VISA's member banks which have own switch can provide the debit card service to their customer.

2.5 Review of Previous Study

In today's age of information technology, the researcher can easily collect the information from internet and analyzed those information during research period.

2.5.1 Review of Journals and Articles

Giri, (2013) one article is published in Kantipur Daily Newspaper titled as “*3.12m Nepalis carry credit, debit cards*”.

He illustrated that the following things on that article:

Nepali banks and financial institutions added 583,573 new debit card holders to the country’s banking channel in the first eight months of the fiscal year. According to Nepal Rastra Bank (NRB), the number of debit card holders reached 3.58 million as of mid-August 2013 with this addition.

Likewise, the banking sector saw the addition of 4,914 new credit card holders as of mid-August this year, bringing the total number of credit card holders to 38,700. There are 3.12 million credit and debit card holders in Nepal currently, according to the central bank.

While commercial banks, development banks and finance companies can issue debit cards , only commercial banks have been allowed to provide credit cards. Commercial banks have so far issued 2.75 million cards, development banks have issued 265,500 cards and finance companies 104,990 cards.

Ashoke Rana, chief executive officer of Himalayan Bank, said the higher priority given by financial institutions to reduce use of cash and provide easier access to customers had played a crucial role in the significant increment in card issuance. “Banks are now issuing debit cards to almost all the customers opening new accounts. This has resulted in the significant growth,” Rana said.

Bankers said that almost 95 percent of bank customers were receiving debit cards . “This is a big growth and a very positive sign for the country’s banking industry. Since cards are the easiest means for personal transactions, the issuance figure too has increased,” said Rajan Amatya, deputy general manager at NIBL Bank.

“The expansion of banks and financial institutions across the country and increasing awareness among customers are among the major reasons behind the increase in the number of card holders,” he added. Both Himalayan Bank and Nepal Investment Bank are leading banks with

regard to issuance of cards. Likewise, introduction of branchless banking services by financial institutions in several places across country, where establishing a branch office is difficult, has too played a crucial role in the aggressive issuance of cards, according to Amatyia.

The country's banks and financial institutions maintain a total of 1,499 ATM outlets. In total, 31 commercial banks are operating 1239 ATM booths across the country. Likewise, development banks have 233 ATM outlets while finance companies have opened 27 ATMs.

The aggressive expansion of ATM outlets by financial institutions has maximized the reach of the general people, thus increasing their charm among those having bank accounts, bankers said.

Bodine, (2006) there was an online article published about "*The Advantages and Disadvantages of Using Your Debit Card*". In his article he has describes the various advantages and disadvantages of using debit cards.

His findings were as follows:

Advantages

- No need to carry cash. Just about every merchant accepts the debit card including the dollar store and some thrift shops. You do not need to worry about losing cash or misplacing it in a pair of jeans only to find it two months later. If your purse or wallet is stolen your money is safe since the perpetrator would need your PIN number to access your funds.
- You don't need to make a trip to the bank every time you need to withdrawal money. You can use your card just about anywhere you go, and if you need the cash you can access your money at an ATM machine any time of day or night.

Disadvantages

- With a debit card you must keep accurate records. You must record each transaction so you will know what your account balance is at all times. If you do not keep records you run the risk of overdrawing your account which will result in bank fees. Not to mention the embarrassment you will suffer at the checkout line when your card is denied.

- If your child needs lunch money you can't just hand them the debit card. You have to drive to the nearest ATM machine to access a few dollars to send to school with your child.
- Some ATM machines charge a fee for their use and then your bank adds another foreign ATM charges (if the machine is not from your bank). Know ahead of time what the fees are and where you can access your money for free if possible.

2.5.2 Review of Thesis

There is no sufficient literature from previous thesis available on related to debit card as only few people has made attempt to conduct research on this topic. I have included review of debit card as well as credit card and internet banking. Debit card and credit card both are the product of online or internet banking.

Adhikari, (2010) carried out the study on “*Growing Impacts of Debit Card in Nepal with Reference to Nepal Investment Bank Ltd.*” Overview of her study is as under:-

Data Analysis Tools:

The study was descriptive as well as analytical in order to make the study more precise, the data are presented in the tabular form. Charts and diagrams are used to clarify and verify the data presented. Financial tool and various statistical tools are used to analysis the debit card of Nepal Investment Bank Limited (NIBL). Financial tools are used to evaluate the financial performance of bank. In her study, she has used different kind of financial tools like Profitability Ratio. Statistical tools like Arithmetic Mean, Standard Deviation, Coefficient of Variation and Coefficient of Correlation are used to evaluate the analysis of the debit card of NIBL.

Major finding of her study:

From the data analysis and interview taken with cardholders, merchants and bank personnel heading card department of different banks, the researcher has find out the following:

- The trend of debit card usage is increasing day by day. Almost all the commercial banks, development banks and other financial institutions are issuing debit cards to it's a/c holders and deploying maximum number of ATMs. In NIBL alone, the average growth

of debit card issuance is more than 110%. The bank has target to issue debit card to all its a/c holders.

- Due to convenience in withdrawing money from ATM and making purchase with card, people are getting attracted towards the card rather than cheque and cash. As per the survey conducted by the researcher for that research, about 80% of sample cardholder feels that it is convenient to hold debit card rather than cash or cheque.
- With the survey conducted, it can be made clear that the card users are satisfied with the present card business of their bank. However, there exist technical problem in ATM which has negative impact on the cardholder's expectation.
- The merchant outlets are also increasing with the increasing number of cardholders and awareness of benefits with regards to card acceptance.
- Maximum profit of card center of bank is generated by issuing debit card rather than other card. The volume of debit card is more compare to any other card and major income of card center is in the form of acquiring income. With the increase in debit card issuance, the acquiring of card increases as such the acquiring income increases. On the basis of data available, the Net Profitability of card centre of NIBL is 39% which seems to be very lucrative. The profitability of card centre of any bank depends upon the volume of card issuance and acquire. Though card business is profitable, today banks are entering into the card business not for profit but to compete in the present banking market and to cross market their other banking products.

Thapa, (2059 BS) carried out the study on “*The Prospects and Challenges of Credit Card Business in the Banking Sector in Nepal.*” Overview of his study is as under:-

Data Analysis Tools:

- A comparative study of the card division profitability with that of similar investment outlet of the bank will be made.
- A survey will be conducted with the present cardholders to identify the problem and asking possible way to enhance the payment through cards. Descriptive analysis of the same will be executed.

- A break even analysis will be carried out with the objective to find out the bottom contribution of the card division to the bank, the return on the assets employed and at what volume it needs to operate to sustain independently.

Major finding of his study:

Since all the findings have been stated in each of the analysis following are the major finding in brief:

- The concept of credit card has not developed significantly in our nation as it has been in other nations. Hence, it is at its budding stage.
- The major problem of the card business is the lack of concept that framework among the people building economic scenario and the huge cost associated with its operation.
- In case of the Bank in question, it has been found marginally overcapitalized when compared to the overall capitalization rate of the bank.
- In recent years the acquiring and the merchant business growth are not doing well compared to the earlier phase of growth and in comparison to the growth of other nations.

Maharjan, (2009) carried out study on “*Internet Banking in Nepal.*”

Major finding of his study:

During doing this thesis, he found that the number of users of internet banking is very poor that’s why he recommended some marketing policy to implement by banks to increase number of internet banking users. About the security of internet banking, banks itself are not feel secure that’s why they are not providing all the services as internet banking which they are capable of also. So if the banks use Biometric devices as security measures then internet banking will be more secure.

Data Collection Techniques:

- Primary Sources of data
- Secondary Sources of data
- Questionnaire

Regmi, (2009) carried out study on title “*Present Status of Information Technology and Security Measure in Nepalese Banking Industry.*” he clarifies through his thesis the Banking industry has been significantly influenced by evolution of technology. Information Technology has been the driving factor in the banking system rather than previous supporting factor.

The research was conducted based on both primary and secondary data Observation. Questionnaire and direct communication were used to collect the primary data. Data collected from primary sources are displayed in tabular format and data have been analyzed using percentage method .Table and figure, Data Flow Diagram and Flow Chart are used for data presentation.

The major drawback this researcher found in his research report is that, the use of technology not only provides competitive advantage; it can also jeopardize the success and sustainability of the organization if not properly managed. The security in financial sector is obviously a very critical part. It is the time for the information technology head of the commercial banks to focus on designing good security policy and its implementation. For security measures, the use of administrative control such as segregation of duties, job description, check maker concept etc are equally important.

Adhikari, (2011) carried out study on "*E-COMMERCE AND E-PAYMENT TECHNOLOGY.*"

Major finding of his study:

- IT Policy is in an appropriate time but still some workout need to do for proper implementation.
- Secure merchant and consumer rights, strong law implementation for the confidentiality in information, re-evaluating the IT policy as per current threats & opportunity and installation of proved products are the requirement for success of eCommerce and ePayment technology in Nepalese market.
- Awareness programs organized by government for modern payment technology and eCommerce growth are not in sufficient level and they need to increase and reach to grass-root level.
- Economic crisis, government policy, hackers and un-implemented cyber law can be great threats for eCommerce and ePayment service provider in Nepal.

- The role of ePayment and eCommerce technologies for the development of socio-economic sectors of the country is very much positive and important.
- Many villages' domestic products can sell national and international market through fully implemented eCommerce technology.
- Role of IT professional, businessman and government is very much important in the development of eCommerce in Nepal.
- The financial institutions will get benefit on liquidity ratio of physical cash due to eCommerce there is transfer of e-cash.
- The Nepalese currency life will increase with fully implementation of ePayment technology in eCommerce.
- The traffic of city due to customer who is going for shopping to market will reduce in some manner with eCommerce.
- Various advantages of online payment in eCommerce to the Nepalese peoples are: Easy money transaction, 24 hrs Customer service, Time savings and security service for client. Most of merchant's are scaring for sharing their profit margin with eCommerce service provider as a service charge.
- Government activities mostly for tax payment there will be proper implementation of eCommerce else concept of E-governance is incomplete.
- There is health hazard in handling physical cash as it may have circulated from various people's contact that may be suffered from communicable disease. Health hazard in handling physical cash will reduce with ePayment technology.
- Nepalese Merchants who are not interested for upgrading their sales through eCommerce are due to Lack of information, find difficulties in order to implement such technologies, need to share their profit as service charge and scare of not getting much benefit from such eCommerce technology in current Nepalese market.
- Demand of time, money, security and volume of transaction is responsible for eCommerce growth in Nepal.
- E-Commerce technology increases competition for online merchant because it is not possible to display the quality of the product on online, decreases on profit margin, online display of price & quality and most of the strategies are online.

- Important factors for the development of eCommerce in Nepal are public awareness in the process and benefit of eCommerce, education about eCommerce should begin from primary level. Also development of physical, Social & legal infrastructure is essential. It is good to provide tax incentive to the IT related tools and technologies.
- Discouraging Factors to Consumer for Online Payments are concern about security, exceed the personal limit of money, availability of debit/credit cards and purchase value.

The limitation of this research:

Adhikari has fully concentration his research on online payment system and ecommerce. My study has completely focused on awareness for debit card user to control various fraud occur due to lack of certain information regarding debit card users must need to know.

2.6 Research Gap

Previous researches were focused mainly on the debit card, credit card business and internet or online banking. One of the previous research was concerned with growing impacts of debit card in Nepal with reference to NIBL. To do this research, the researcher does not find any previous research on the topic of the consumer awareness and perception. On that study, only focused to impact on the banks overall performance and customer's day to day life due to debit card business.

Previous studies were not exactly made in the awareness and perception about the debit card. Today large numbers and amount of transactions are made through debit card. Very few studies were made on use of debit card in Nepal.

CHAPTER-III

RESEARCH METHODOLOGY

This chapter explains not only the research methods but also consider the logic behind the methods, which are used in the context of this research. This chapter consists of the Research design, Population and Sample, Sources of Data, Techniques of Data Collection and Data Analysis Tools. The research methodology used in the present study is briefly mentioned below.

3.1 Research Design

This research is based basically on the collection of primary data. This study tried to explore the awareness level of banking customer and perception of the debit card users. Thus this study has followed descriptive research design. Survey is conducted to obtain detail information existing variable structure questionnaires and unstructured interviews. Researcher's intention to describe the area of research and try to explain the collected data in order to explain the Consumer's Awareness and Perception about Debit Card.

3.2 Population and Sample

All cardholder of commercial banks, development banks, financial institutions and merchant outlets who accept cards are total population and responses collected through questionnaire of card holders and merchants are sample as individuals as unit of analysis.

Table 3. 1 Populations and sample size

Population	Sample
- All cardholder of commercial banks, development banks, financial institutions and merchant outlets	- 95 cardholders and 25 merchants

3.3 Sources of Data

The present study has been completed mainly with the help of primary data, the primary data are collected through fieldwork taking interview and administering questionnaire with merchants

and card holder of different financial institutions who are in Kathmandu Valley. Apart from this some information is collected through unstructured interview with concern persons and data are collected from SmartChoice Technologies (P) Ltd.

3.4 Data Collection Technique

For the purpose of primary data collection, field survey was conducted in December 2013. During the survey in addition to reading materials, the means of gathering the data and information included both questionnaire and interview techniques has been used in order to collect the data for the study.

For the data, collection questionnaires are designed. There are multiple choice questions; yes/no questions and priority based questions included. Questionnaires are prepared to collect the primary data.

Structured Questionnaire

Structured questionnaires were prepared for three different sample groups; Customers (card users), Merchants and Departmental stores. Few banking staffs and employees working at Everest Bank Limited and various banks who are acquainted with debit card were also consulted.

Customers

This questionnaire was targeted to people regardless of sex, age, education or any other such demographic criteria, the only requirement was that the respondent had to have a debit card of any bank of Kathmandu valley.

This questionnaire was designed so as to focus on specific reason for acquiring debit card and choosing particular banks for doing so. For the debit card holders, the question mainly focused on the types of debit card acquired, means of gathering information about debit card, reasons for acquirement and problems encountered with usage of card, frequency of usage, places of usage, reasons for usage, future plans of termination and reasons for doing so.

Merchants

The merchant's questionnaire was targeted to merchants of different establishments such as departmental stores, restaurants, hotels, travel agents and others such as retail outlets concentrated in Lalitpur, Bhaktapur and Kathmandu. The questionnaire was divided into two portions; one focused on Merchants having debit cards facilities and the other merchants not having the facilities. The first section consists of questions focused on the acquiring bank, reasons for selection of bank, reasons for acquirement of facilities, frequency of usage of debit card and problems encountered with usage of card. The second section comprises of questions regarding reasons for not acquiring debit card facilities, reaction of customers to absence of debit card facility and whether there is planning for installing debit card facility and reasons for doing so or if not then why.

Departmental Stores

Departmental stores questionnaire was targeted to departmental stores providing debit cards facilities to their customers. This questionnaire was designed so as to find out the reasons for selection of different banks cards. The questionnaire included most of the questions in 'Merchant' questionnaire. Furthermore, apart from general information, acquiring bank, reasons for selection of bank, reason for acquirement of facilities, frequency of usage of debitt cards and problems encountered with usages of cards were asked.

3.5 Tools and Techniques Used in Data Analysis

3.5.1 Data Analysis Tools

During the data processing work, the filled questionnaires are carefully checked to remove errors and inconsistencies, if any. Data processing programs such as Microsoft Access & Microsoft Excel are used to record and process the collected data. Thereafter, data is analyzed by using chart tools of MS- Excel is used to present the data in graphs.

As it is mentioned above, the study is fully descriptive type. As per the nature of research, no hypothetical tools are used to analyze the data. Only some statistical tools are used to explore the data. Main tools used in this study are –

% (percentage): To show the percentage of respondents on a particular question or opinion.

Chart: Different charts like pie, bar etc to show the graphical presentation of data.

CHAPTER - IV

DATA PRESENTATION AND ANALYSIS

4.1 Background

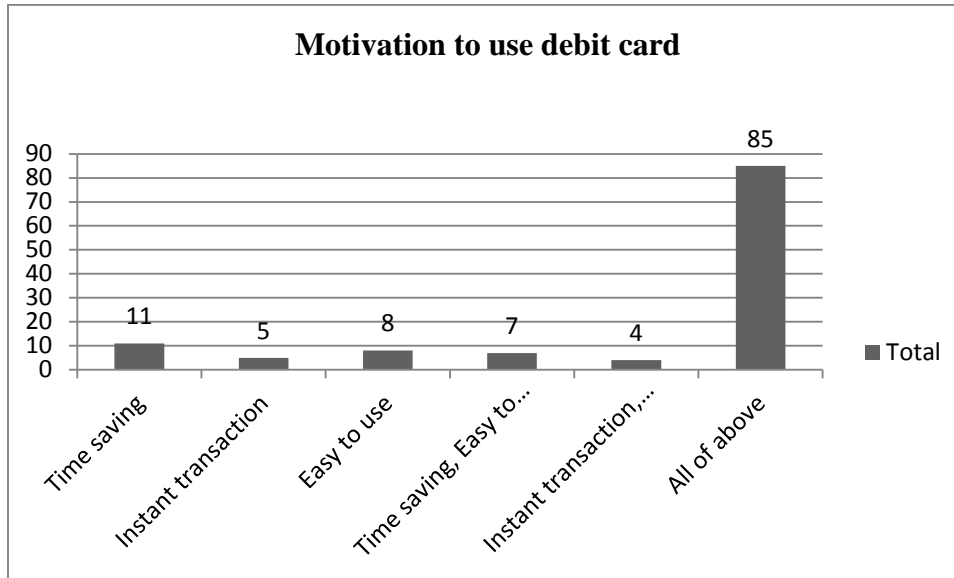
This chapter presents the analysis and presentation of the empirical data starts by presenting the findings obtained from the research, by setting out the results of the consumer awareness and perception about debit card. There are several steps to analyze and present those data. This chapter examines the consumer awareness and perception about debit card, reasons for not implementing as a promotional tool and the major problems of consumers to using the card. Major objective of search is to find out the current perception and awareness of debit card technology in Nepal. In the respond on the objective of this research, views of card holders as well as card service providers were analyzed. There are 20 questions and the questions were objective and ranking types. The respondent's views are analyzed using statistical tools like Questionnaire, Data Analysis, Tabulation Presentation, Bar Chart, and Pie Chart.

4.2 Analysis of motivation to use debit card

Table 4. 1 Position of debit card holder

What factor motivated you to use debit card?	No. of Respondents	
	Numbers	%
Time saving	11	9.17
Instant transaction	5	4.17
Easy to use	8	6.67
Time saving, Easy to use	7	5.83
Instant transaction, Easy to use	4	3.33
All of above	85	68.33
Total	120	100

Figure 4. 1 Position of debit card holder



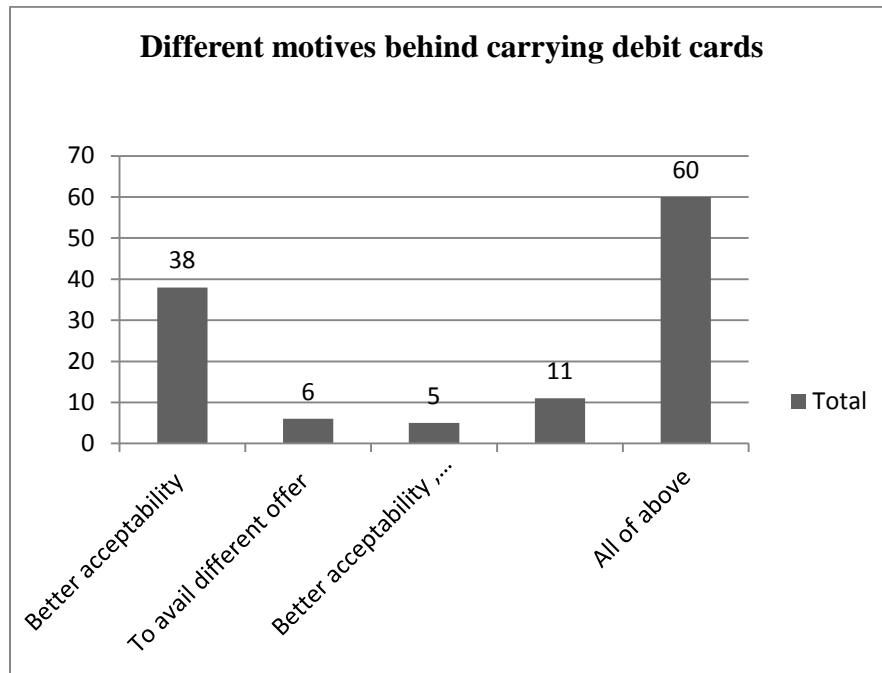
In the above Table 4.2 and Figure 4.2, out of 120 respondents 11(9.17%) have used debit card for time saving. 5(4.17%) have used debit card for its instant transaction facility. 8(6.67%) have used debit card for easy to use. 7(5.83%) have used debit card for both time saving and easy to use. 4(3.33%) have used debit card for both instant transaction and easy to use. And most of the respondent that are 85(68.33%) have used debit card for all that is time saving, instant transaction and easy to use.

4.3 Analysis of the different motives behind carrying debit cards

Table 4. 2 Motives of carrying debit cards

What are the different motives behind carrying debit cards?	No. of Respondents	
	Numbers	%
Better acceptability	38	31.67
To avail different offer	6	5
Better acceptability , Fashion statement	5	4.17
Better acceptability , To avail different offer	11	9.17
All of above	60	50
Total	120	100

Figure 4. 2 Motives of carrying debit cards



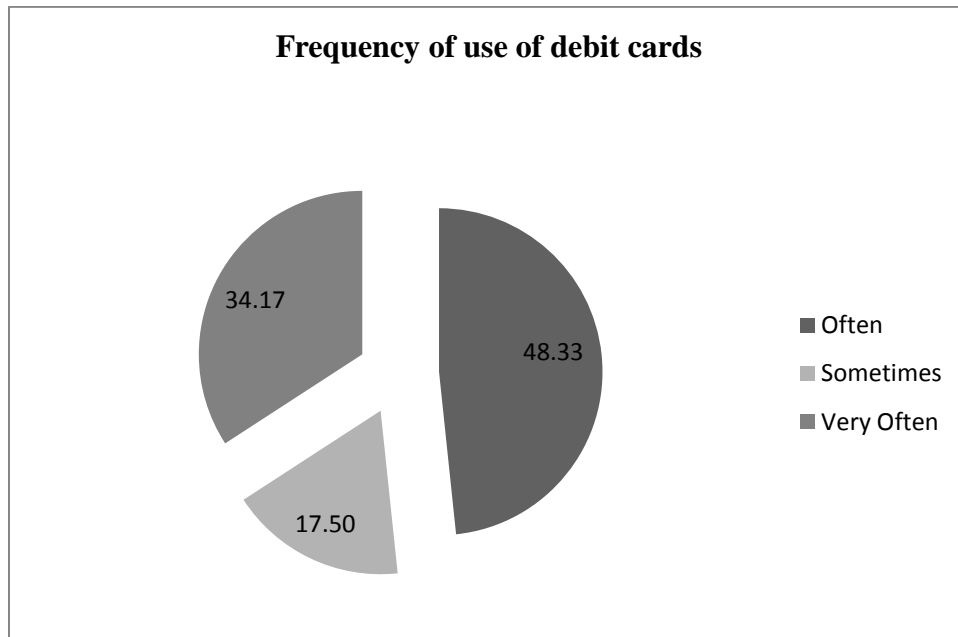
In the above Table 4.3 and Figure 4.3, out of 120 consumers 38(31.67%) have carried the debit card for better acceptability. 6(5%) have carried the debit card for available of different offer. 5(4.17%) have carried the debit card for better acceptability and fashion statement. 11(9.17%) have carried the debit card for both better acceptability and to available different offer. The most of the consumer that are 60(50%) have carried debit card for all facility it provided that is better acceptability, to available different offer and fashion statement.

4.4 Analysis of frequency of use of debit cards

Table 4. 3 Frequency of use of debit cards

Frequency of use of debit cards.	No. of Respondents	
	Numbers	%
Often	58	48.33
Sometimes	21	17.50
Very Often	41	34.17
Total	120	100

Figure 4. 3 Frequency of use of debit cards



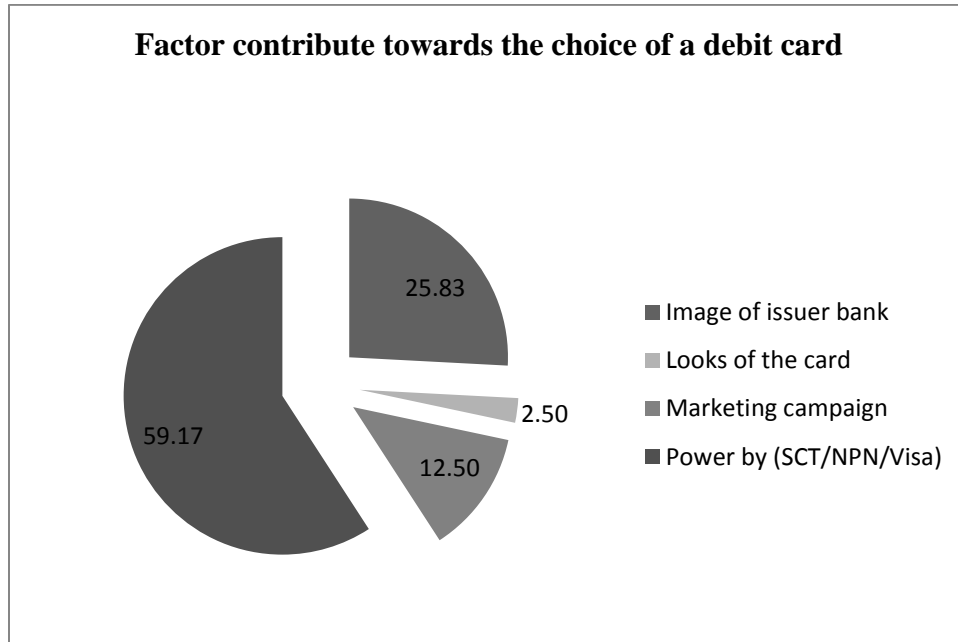
In the above Table 4.4 and Figure 4.4, out of 120 consumers, 17.50% have sometimes used the debit card, 34.17% have very often used debit card and most of the consumers that are 48.33% have often used debit card.

4.5 Analysis of factor contribute towards the choice of a debit card

Table 4. 4 Factor contribute towards the choice of a debit card

What factors contribute towards the choice of a debit card?	No. of Respondents	
	Numbers	%
Image of issuer bank	31	25.83
Looks of the card	3	2.50
Marketing campaign	15	12.50
Power by (SCT/NPN/Visa)	71	59.17
Total	120	100

Figure 4. 4 Factor contribute towards the choice of a debit card



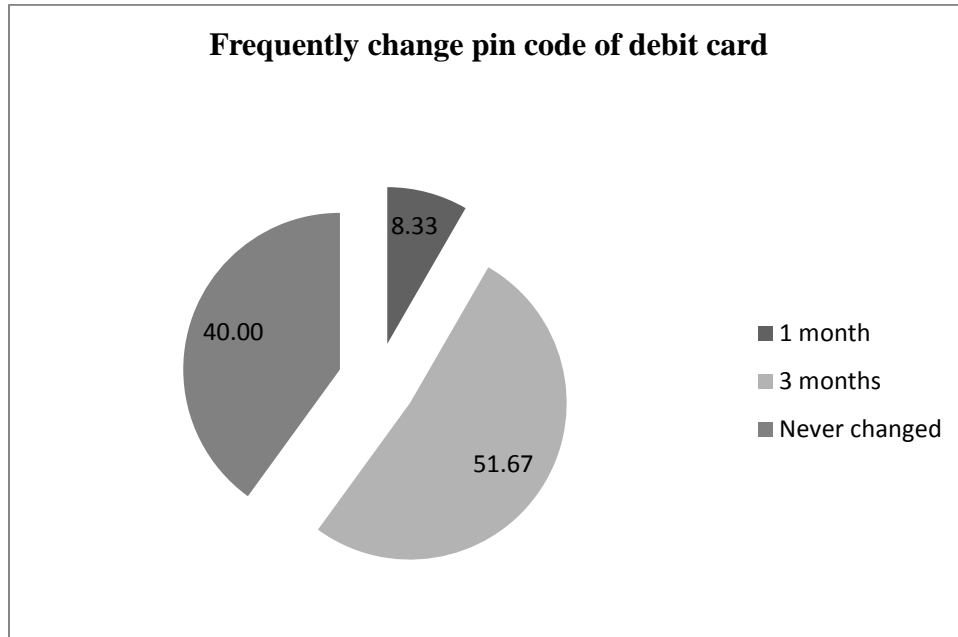
In the above Table 4.5 and Figure 4.5, out of 120 consumers, 25.83% consumers have choose debit card looking after the image of issuer bank, 2.50% consumers have choose debit card looking after the looks of the card, 12.50% consumers have choose debit card looking after marketing campaign and most of the consumers that are 59.17% have choose debit card looking after power by any organization like SCT, NPN or Visa debit card.

4.6 Analysis of frequently change pin code of debit card

Table 4. 5 Frequently change pin code of debit card

How frequently you change your pin code of debit card?	No. of Respondents	
	Numbers	%
1 month	10	8.33
3 months	62	51.67
Never changed	48	40.00
Total	120	100

Figure 4. 5 Frequently change pin code of debit card



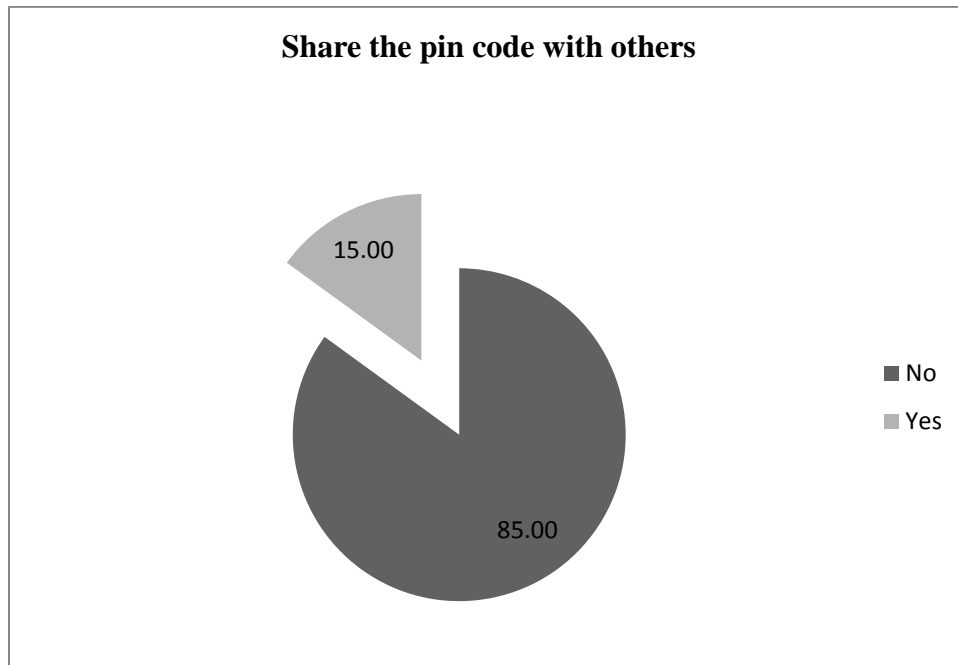
In the above Table 4.6 and Figure 4.6, out of 120 consumers, 8.33% have changed their pin code of debit card on 1 month, 40.00% have never changed their pin code of debit card and most of the consumers that are 51.67% have changed their pin code on 3 months.

4.7 Analysis of share the pin code with others or not

Table 4. 6 Share the pin code with others

Do you share your pin code with others?	No. of Respondents	
	Numbers	%
No	102	85
Yes	18	15
Total	120	100

Figure 4. 6 Share the pin code with others



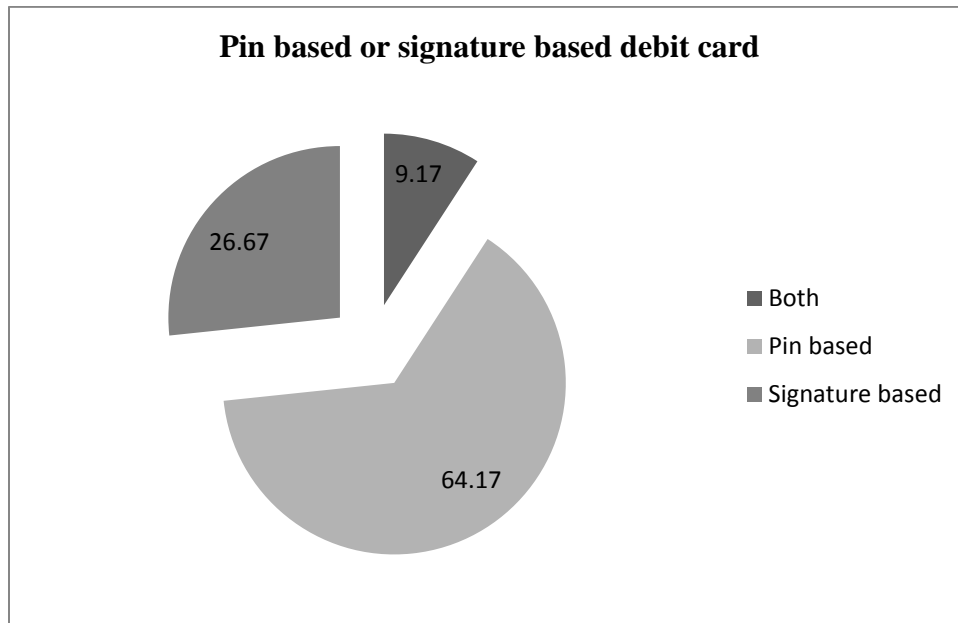
In the above Table 4.7 and Figure 4.7, out of 120 consumers, 15% have shared their pin code with others and most of the consumer that is 85% has never shared their pin code with others.

4.8 Analysis of pin based or signature based debit card

Table 4. 7 Pin based or signature based debit card

Which debit card you prefer: Pin based or Signature Based?	No. of Respondents	
	Numbers	%
Both	11	9.17
Pin based	77	64.17
Signature based	32	26.67
Total	120	100

Figure 4. 7 Pin based or signature based debit card



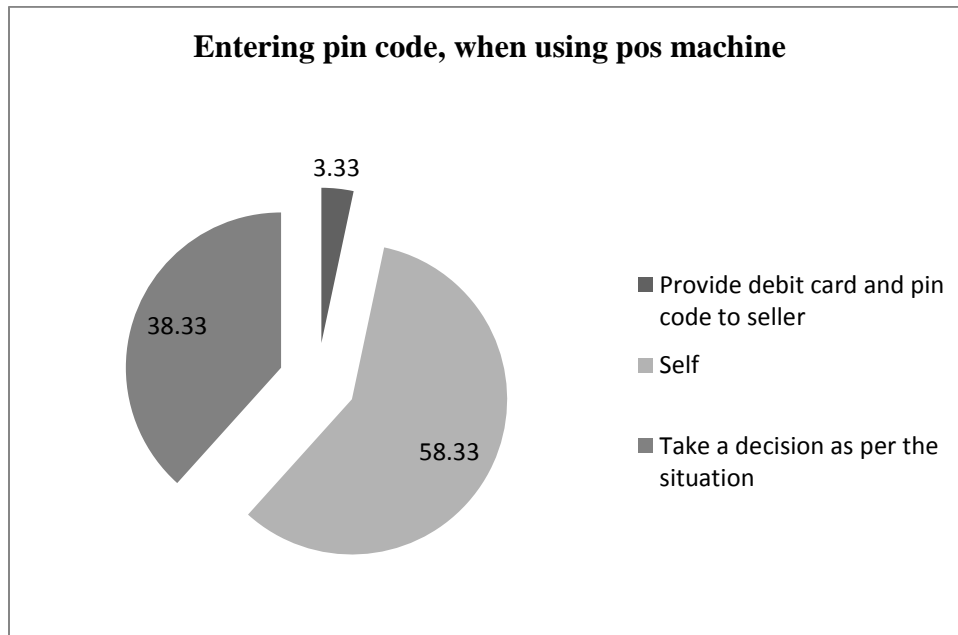
In the above Table 4.8 and Figure 4.8, out of 120 consumers, 9.17% have preferred both pin based and signature based debit card, 26.67% have preferred signature based debit card and most of the consumers that is 64.17% have preferred pin based debit card.

4.9 Analysis of entering pin code, when using pos machine

Table 4. 8 Entering pin code, when using pos machine

How do you enter pin code, when you used POS machine?	No. of Respondents	
	Numbers	%
Provide debit card and pin code to seller	4	3.33
Self	70	58.33
Take a decision as per the situation	46	38.33
Total	120	100

Figure 4. 8 Entering pin code, when using pos machine



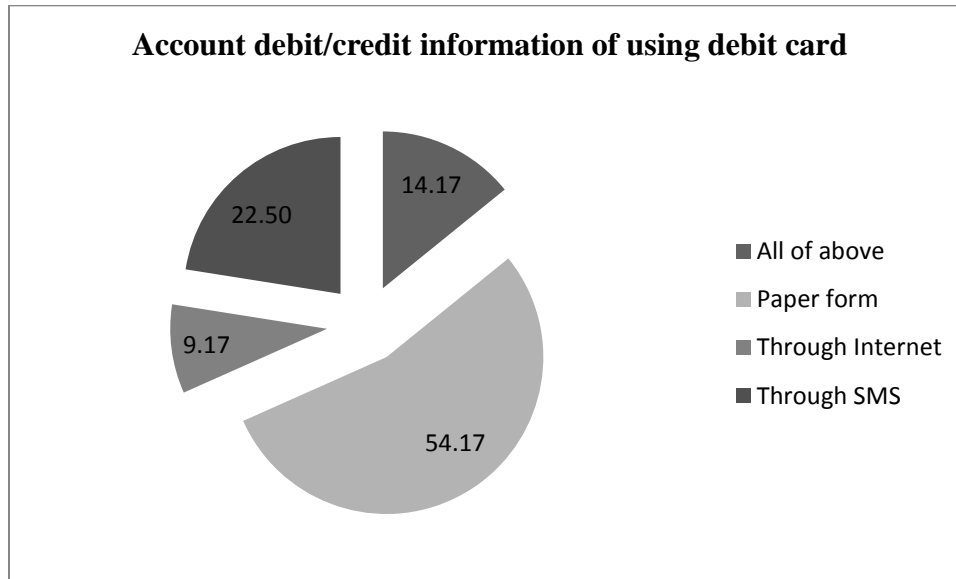
In the above Table 4.9 and Figure 4.9, out of 120 consumers, 3.33% have provided debit card to seller for entering pin code when they have used POS machine, 38.33% have taken a decision as per the situation and most of the consumers that is 58.33% have entered pin code by them self when they used POS machine.

4.10 Analysis of account debit/credit information of using debit card

Table 4. 9 Account debit/credit information of using debit card

How you receive information about account debit/credit while using debit card services?	No. of Respondents	
	Numbers	%
All of above	17	14.17
Paper form	65	54.17
Through Internet	11	9.17
Through SMS	27	22.50
Total	120	100

Figure 4. 9 Account debit/credit information of using debit card



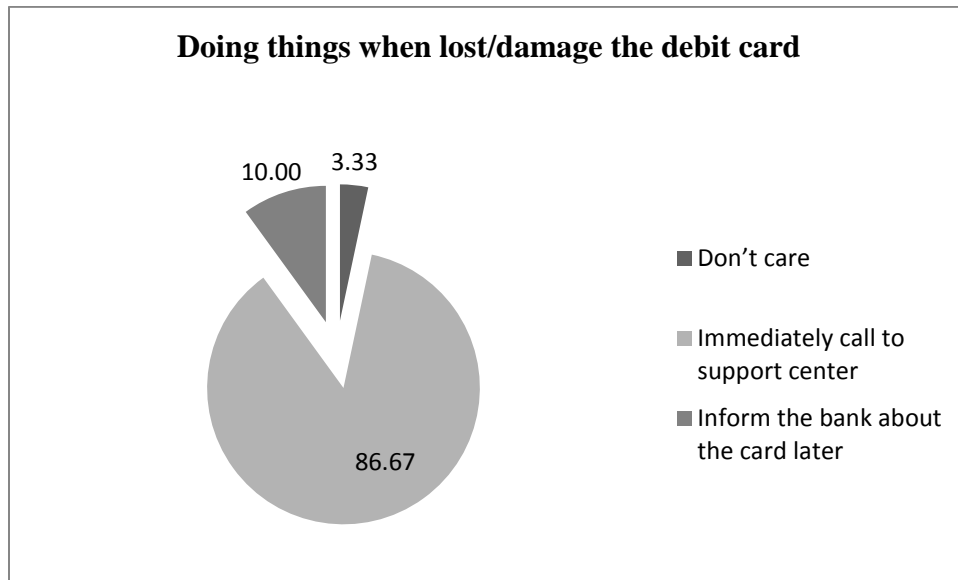
In the above Table 4.10 and Figure 4.10, out of 120 consumers, 9.17% consumers have received their account debit/credit information through internet while using debit card services. 22.50% consumers have received their account debit/credit information through SMS while using debit card services. 14.17% consumers have received their account debit/credit information through paper form, internet and SMS while using debit card services. And most of the consumers that are 54.17% have received their account debit/credit information in paper form.

4.11 Analysis of doing things when lost/damage the debit card

Table 4. 10 Doing things when lost/damage the debit card

What you will do when you lost/damage your debit card?	No. of Respondents	
	Numbers	%
Don't care	4	3.33
Immediately call to support center	104	86.67
Inform the bank about the card later	12	10.00
Total	120	100

Figure 4. 10 Doing things when lost/damage the debit card



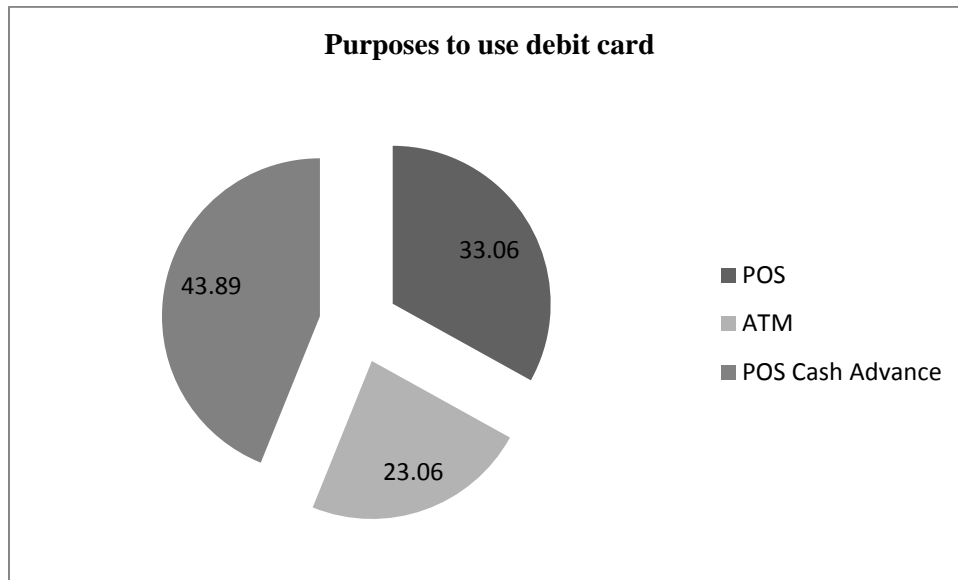
In the above Table 4.11 and Figure 4.11, out of 120 consumers, 3.33% have don't care when they lost or damaged their debit card, 10% have informed the bank about the lost or damaged their debit card later and most of the consumers that is 86.67% have immediately called to support center.

4.12 Analysis of purposes to use debit card

Table 4. 11 Purposes to use debit card

For what purposes you use Debit card?	Rating	No. of Respondents	
		Numbers	%
POS	1*21+2*80+3*19	238	33.06
ATM	1*94+2*6+3*20	166	23.06
POS Cash Advance	1*12+2*20+3*88	316	43.89
Total		720	100

Figure 4. 11 Purposes to use debit card



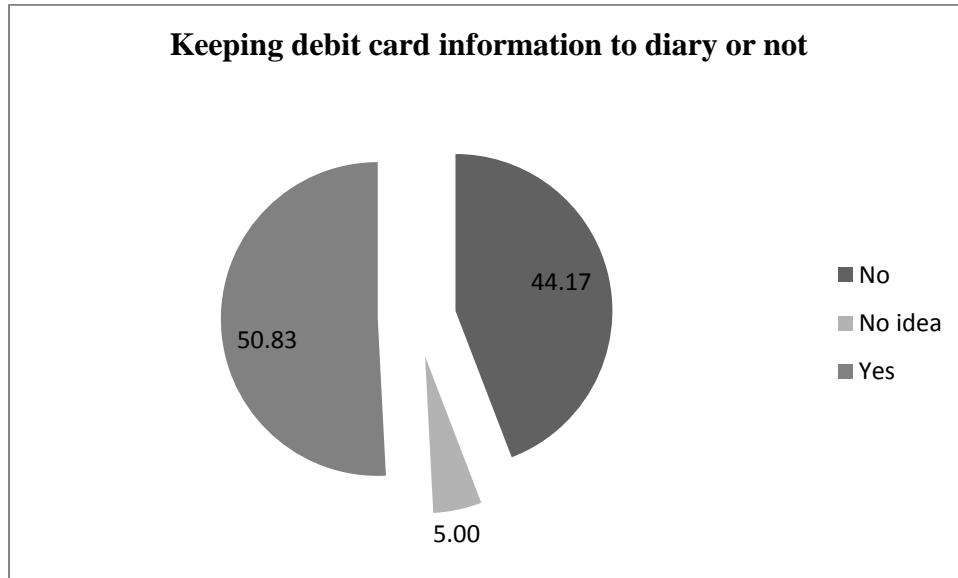
In above Table 4.12 and Figure 4.12, the respondent's perception is given about for what purposes they used debit card. According to sum up rating out of 720, 166(23.06%) consumers have used debit card for ATM, 238(33.06%) consumers have used debit card for POS and most of the consumers that 316(43.89%) have used debit card for POS cash advance.

4.13 Analysis of keeping debit card information to diary or not

Table 4. 12 Keeping debit card information to diary or not

Do you have kept debit card number and account information in your diary for reference in case of lost of debit card.	No. of Respondents	
	Numbers	%
No	4	44.17
No idea	104	5.00
Yes	12	50.83
Total	120	100

Figure 4. 12 Keeping debit card information to diary or not



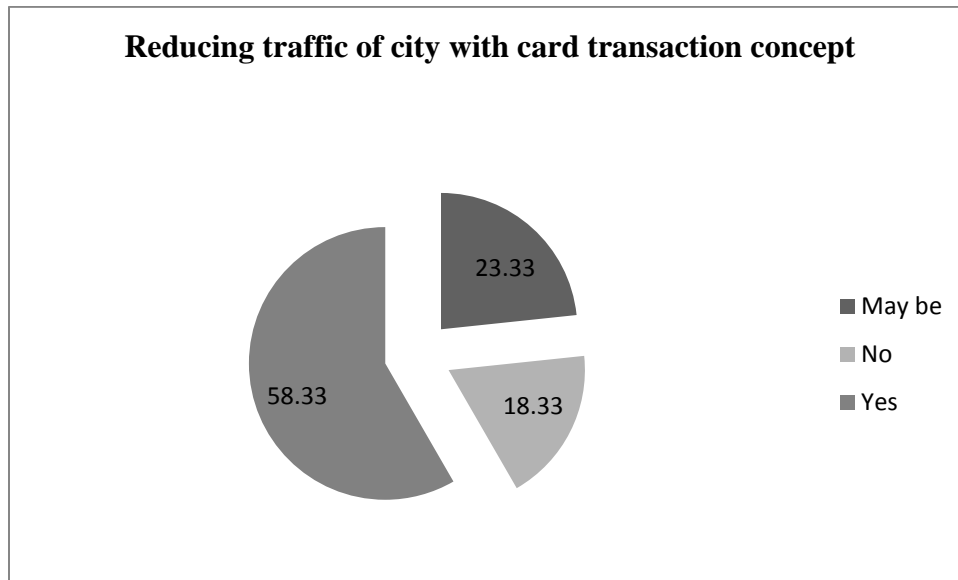
In the above Table 4.13 and Figure 4.13, out of 120 consumers, 44.17% have kept the debit card and account information in their diary for future reference, 5% consumers have no idea whether they have kept their debit card and account information in their diary for future reference or not and most of the consumers that is 50.83% have kept their debit card and account information in their diary for future reference.

4.14 Analysis of reducing traffic of city with card transaction concept

Table 4. 13 Reducing traffic of city with card transaction concept

The traffic of city due to customer who is going for withdrawal to bank will ultimately reduce with Card Transaction concept.	No. of Respondents	
	Numbers	%
May be	28	23.33
No	22	18.33
Yes	70	58.33
Total	120	100

Figure 4. 13 Reducing traffic of city with card transaction concept



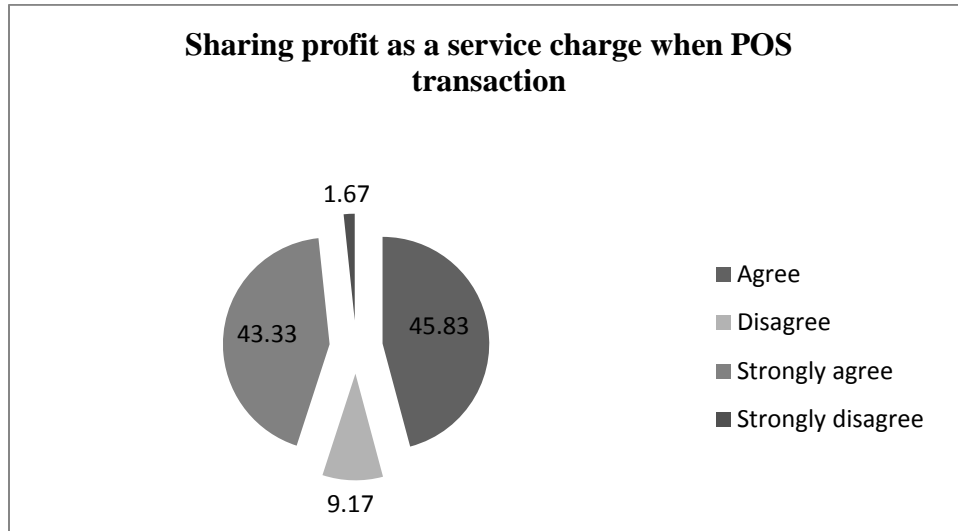
In the above Table 4.14 and Figure 4.14, out of 120 consumers, 23.33% of consumers have thought that may be the debit card transaction concept reduce the traffic of city due to customer who is going for withdrawal to bank, 18.33% of consumers have thought that the debit card transaction concept do not reduce the traffic of city due to customer who is going for withdrawal to bank and most of consumers that is 58.33% have thought that the debit card transaction concept reduce the traffic of city due to customer who is going for withdrawal to bank.

4.15 Analysis of sharing profit as a service charge when POS transaction

Table 4. 14 Sharing profit as a service charge when POS transaction

Most of merchants feel that they will have to share their profit with service provider as a service charge when POS transaction.	No. of Respondents	
	Numbers	%
Agree	55	45.83
Disagree	11	9.17
Strongly agree	52	43.33
Strongly disagree	2	1.67
Total	120	100

Figure 4. 14 Sharing profit as a service charge when POS transaction



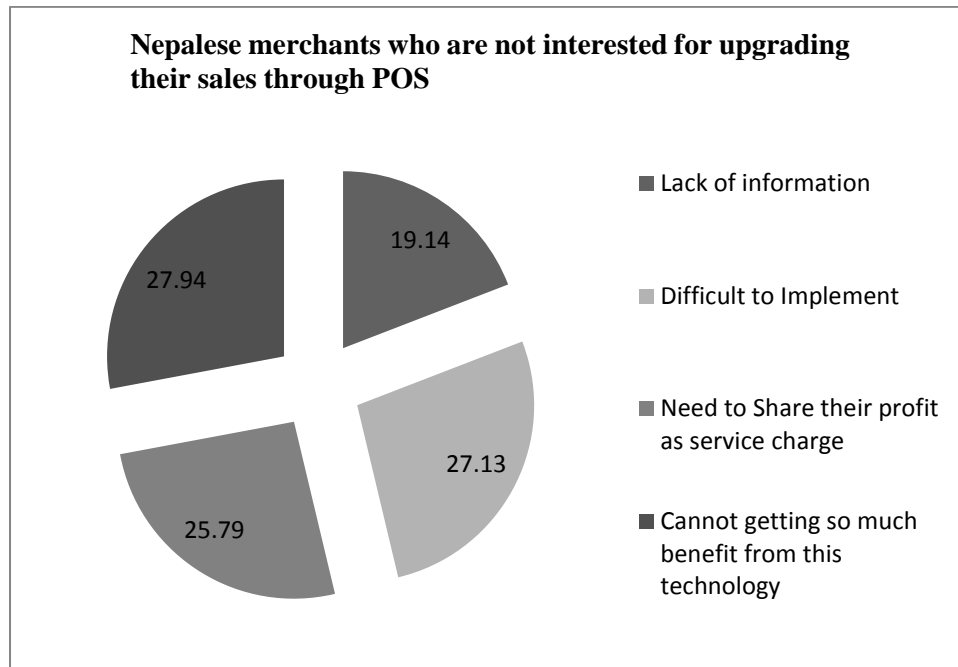
In the above Table 4.15 and Figure 4.15, out of 120 consumers, 1.67% consumers have strongly disagree that the most of merchant feel that they will have to share profit with service provider as a service charge when POS transaction, 9.17% have disagree that the most of merchant feel that they will have to share profit with service provider as a service charge when POS transaction, 43.33% have strongly agree that the most of merchant feel that they will have to share profit with service provider as a service charge when POS transaction and most of the consumers that is 45.83% have agree that the most of merchant feel that they will have to share profit with service provider as a service charge when POS transaction.

4.16 Analysis of Nepalese merchants who are not interested for upgrading their sales through POS

Table 4. 15 Nepalese merchants who are not interested for upgrading their sales

Nepalese Merchants who are not interested for upgrading their sales through POS.	Rating	No. of Respondents	
		Numbers	%
Lack of information	1*70+2*24+3*9+4*17	213	19.14
Difficult to Implement	1*19+2*46+3*29+4*26	302	27.13
Need to Share their profit as service charge	1*26+2*41+3*33+4*20	287	25.79
Cannot getting so much benefit from this technology	1*17+2*39+3*40+4*24	311	27.94
Total		1113	100

Figure 4. 15 Nepalese merchants who are not interested for upgrading their sales



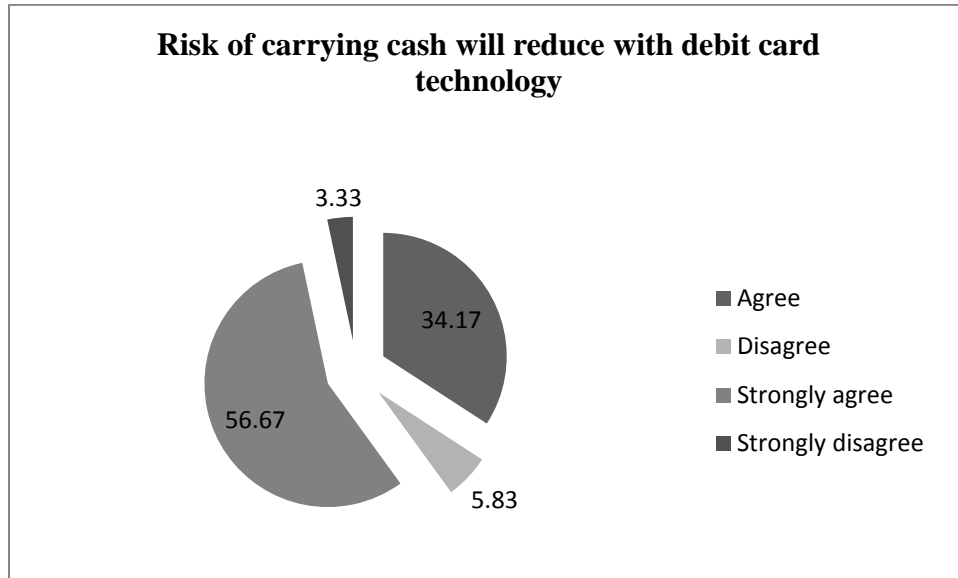
In above Table 4.16 and Figure 4.16, the respondent's perception is given about the Nepalese Merchants who are not interested for upgrading their sales through POS. According to sum up rating out of 1113, 213(19.14%) consumers believed that the Nepalese Merchants who are not interested for upgrading their sales through POS due to lack of information, 287(25.79%) consumers believed that due to need to Share their profit as service charge, 302(27.13%) consumers believed that due to difficult to Implement and most of the consumers that is 311(27.94%) believed that the Nepalese Merchants who are not interested for upgrading their sales through POS due to they cannot getting so much benefit from this technology.

4.17 Analysis of risk of carrying cash will reduce with debit card technology

Table 4. 16 Risk of carrying cash will reduce with debit card technology

Risk of carrying physical cash will reduce with debit card technology.	No. of Respondents	
	Numbers	%
Agree	41	34.17
Disagree	7	5.83
Strongly agree	68	56.67
Strongly disagree	4	3.33
Total	120	100

Figure 4. 16 Risk of carrying cash will reduce with debit card technology



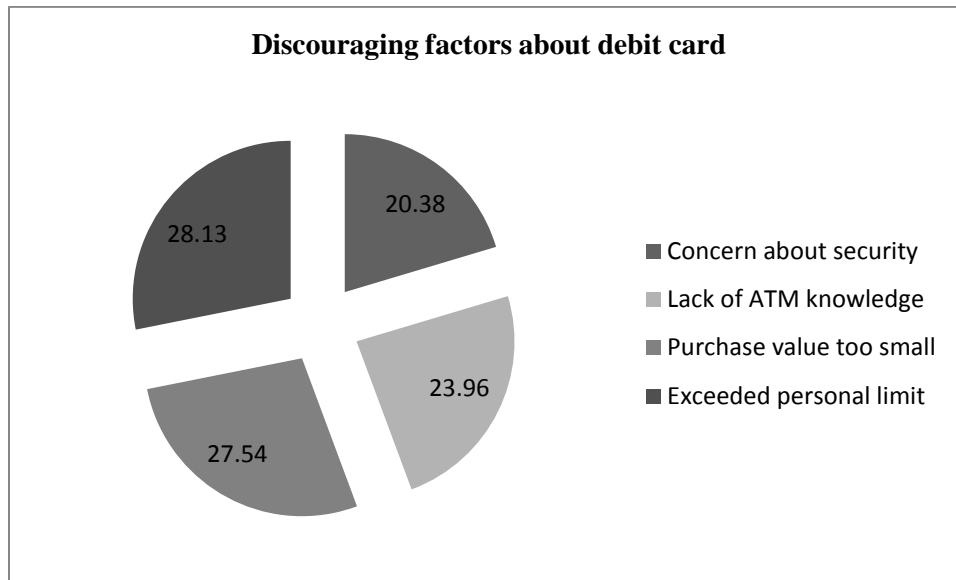
In the above Table 4.17 and Figure 4.17, out of 120 consumers, 3.33% have strongly disagree that the risk of carrying physical cash will reduce with debit card technology, 5.83% have disagree that the risk of carrying physical cash will reduce with debit card technology, 34.17% have agree that the risk of carrying physical cash will reduce with debit card technology and most of the consumers that is 56.67% have strongly agree that the risk of carrying physical cash will reduce with debit card technology.

4.18 Analysis of discouraging factors about debit card

Table 4. 17 Discouraging factors about debit card

Discouraging factors about debit card.	Rating	No. of Respondents	
		Numbers	%
Concern about security	1*52+2*36+3*13+4*19	239	20.38
Lack of ATM knowledge	1*30+2*45+3*19+4*26	281	23.96
Purchase value too small	1*18+2*28+3*47+4*27	323	27.54
Exceeded personal limit	1*22+2*29+3*26+4*43	330	28.13
Total		1173	100

Figure 4. 17 Discouraging factors about debit card



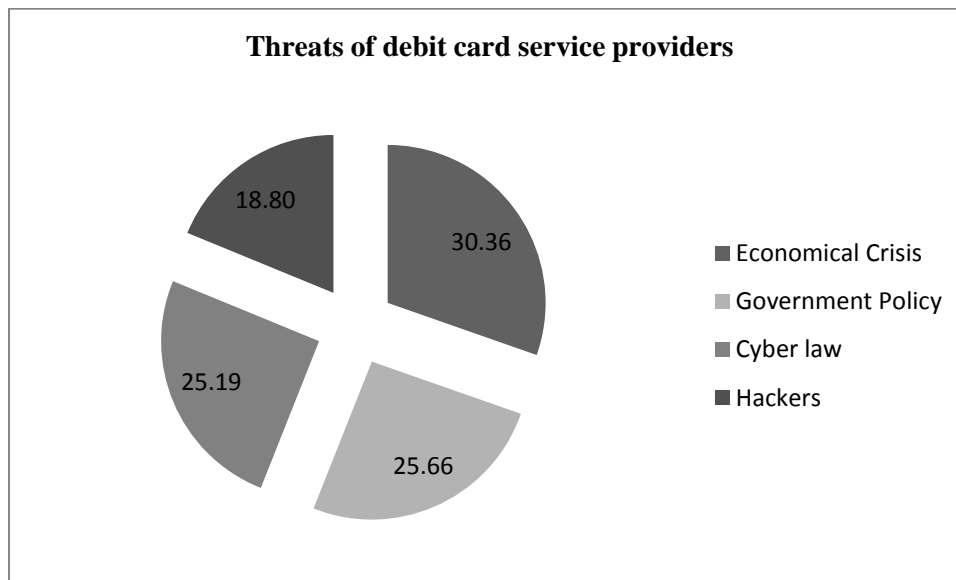
In above Table 4.18 and Figure 4.18, the respondent's perception is given about the discouraging factors about debit card. According to sum up rating out of 1173, 239(20.38%) consumers have believed that the discouraging factors about debit card is concern about security, 281(23.96%) consumers have believed that the discouraging factors about debit card is lack of ATM knowledge, 323(27.54%) consumers have believed that the discouraging factors about debit card is purchase value too small and most of the consumers that 330(28.13%) have believed that the discouraging factors about debit card is exceeded personal limit.

4.19 Analysis of threats of debit card service providers

Table 4. 18 Threats of debit card service providers

Threats of debit card service providers.	Rating	No. of Respondents	
		Numbers	%
Economical Crisis	1*17+2*43+3*20+4*40	323	30.36
Government Policy	1*31+2*40+3*34+4*15	273	25.66
Cyber law	1*26+2*52+3*30+4*12	268	25.19
Hackers	1*61+2*42+3*13+4*4	200	18.80
Total		1064	100

Figure 4. 18 threats of debit card service providers



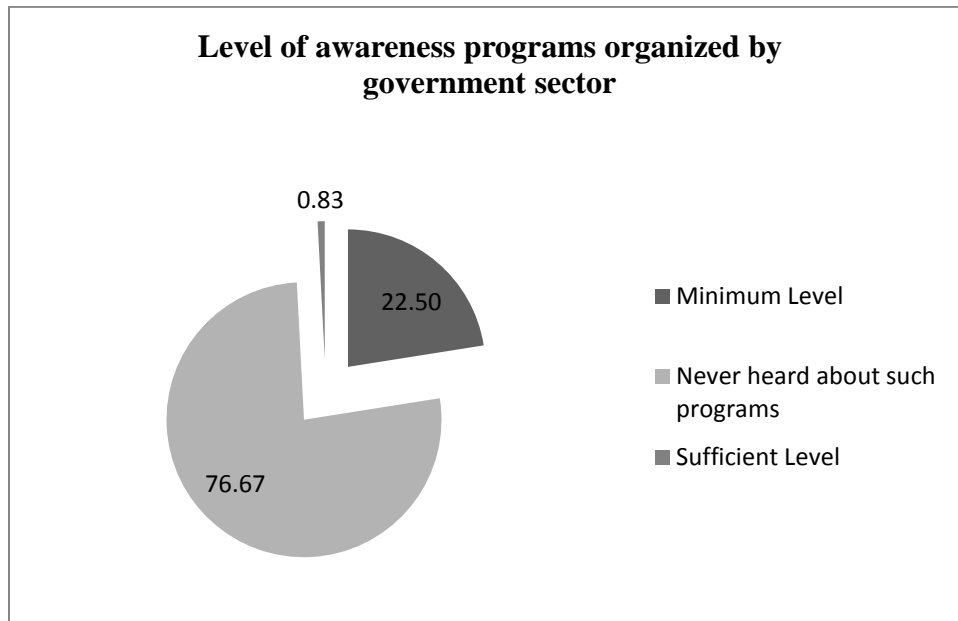
In above Table 4.19 and Figure 4.19, the respondent's perception is given about the threats of debit card service providers. According to sum up rating out of 1064, 200(18.80%) consumers have believed that the threats of debit card service provider is hackers, 268(25.19%) consumers have believed that the threats of debit card service provider is cyber law, 273(25.66%) consumers have believed that the threats of debit card service provider is government policy and most of the consumers that 323(30.36%) have believed that the threats of debit card service provider is economical crisis.

4.20 Analysis of level of awareness programs organized by government sector

Table 4. 19 Level of awareness programs organized by government sector

Level of awareness programs organized by government sector about modern payment technology.	No. of Respondents	
	Numbers	%
Minimum Level	27	22.50
Never heard about such programs	92	76.67
Sufficient Level	1	0.83
Total	120	100

Figure 4. 19 Level of awareness programs organized by government sector



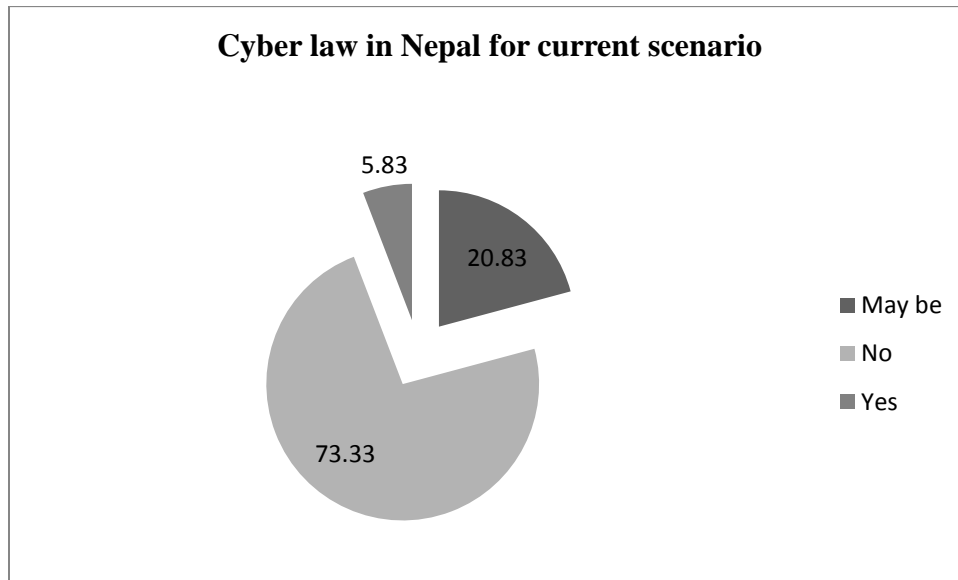
In the above Table 4.20 and Figure 4.20, out of 120 consumers, 0.83% consumers have believed that the level of awareness programs organized by government sector about modern payment technology is sufficient level, 22.50% consumers have believed that the level of awareness programs organized by government sector about modern payment technology is minimum level and most of the consumers that is 76.67% consumers never heard about the awareness programs organized by government sector about modern payment technology .

4.21 Analysis of cyber law in Nepal for current scenario

Table 4. 20 Cyber law in Nepal for current scenario

Cyber Law in Nepal is adequate for current scenario.	No. of Respondents	
	Numbers	%
May be	25	20.83
No	88	73.33
Yes	7	5.83
Total	120	100

Figure 4. 20 Cyber law in Nepal for current scenario



In the above Table 4.21 and Figure 4.21, 5.83% consumers believed that the Cyber Law in Nepal is adequate for current scenario, 20.83% consumers believed that may be the Cyber Law in Nepal is adequate for current scenario and most of the consumers that is 73.33% consumers believed that the Cyber Law in Nepal is not adequate for current scenario.

4.22 Major Findings

The most of the consumers have same perceptions and the most of the consumers were aware about the debit card they have used. There are many findings available from the research. There are as follows:

- The consumers have used to debit card due to all the facility provided by the debit card like: time saving, instant transaction and easy to use. The consumers have carried the debit card due to better acceptability, to available different offer from the different shopping malls and banks itself and also for fashion statement. The consumers have often used debit card. The different organization like SCT Network, NPN Network and VISA debit card has contributed to choose the debit card by consumers.
- The consumers have changed their pin code on 3 months duration.

- The consumers never shared their pin code with others. It proves that they have aware about the debit card they have used.
- The consumers have preferred pin based transaction. It also shows that the consumers are how much aware about the debit card they have used.
- The consumers have self entered the pin code when they used POS transaction. It also proves that the consumers are aware about the debit card they have used.
- The consumers have received account debit/credit information through paper form.
- The consumers have immediately called to support center when they lost or damaged their debit card. It also proves that the consumers are aware about the debit card they have used.
- The most of the consumers have used debit card for POS cash advance.
- The consumers have kept debit card number and account information in their diary for future reference in case of lost of debit card.
- The consumers have strongly agreed that of carrying physical cash will reduce with debit card technology.
- The traffic of city due to customer who is going for withdrawal to bank will ultimately reduce with card transaction concept.
- The most of merchant feel that they will have to share profit with service provider as a service charge when POS transaction.
- Nepalese Merchants who are not interested for upgrading their sales through POS due to they cannot getting so much benefit from this technology.
- The risk of carrying physical cash will reduce with debit card technology.
- Threats of debit card service providers are economical crisis.
- The consumers have never heard about the awareness programs organized by government sector about modern payment technology.
- The cyber law in Nepal is not adequate for current scenario.

CHAPTER-V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This is the last chapter of the thesis and the most important part because it is here where the findings, and the whole thesis for that matter, are summarized; generalizations in the form of conclusions are made; and the recommendations for the solution of problems discovered in the study are addressed to those concerned.

5.1 Summary

This study was focused on the consumer awareness and perception about debit card. In the first chapter, Background of the study, Introduction of Debit Card, Statement of Problems, Objectives of the Studies and the Limitation of Study were identified and analyzed.

In Chapter two, to make theoretical foundation, review of past literatures was made basically in two areas: i) Conceptual Review ii) Review of Related Studies. Conceptual Review includes the Definition of Debit Cards, Debit Card Transaction, Flow of Transaction, Actual Scenario of Card Transaction, How to Use a Debit Card, How Debit Cards Work, Types of Debit Cards, ISO Message Specification for Debit Card Transaction, Debit Card Service Provider in Nepal.

In Chapter three, what research is defined and how is it presented in this study. The Research Design applied and Population and Sample of data, Sources of Data, Techniques of Data Collection and Data Analysis Tools used has been described.

In Chapter four, frequency analysis has been done, the data collected from questionnaire has been analyzed by presenting the data in tabular and graphical form. The major findings of the data analysis are quoted.

5.2 Conclusions

Cards not only easiness to purchase but also time saving, easy to use and instant transaction facility it provided and help in need of emergency cash requirement with its cash advance service. Today, consumers have carried the debit card due to better acceptability, to available

different market offer and also for fashion statement. So, all the banks are in process to substitute their cheque with card. They are trying to educate their clients to use cards rather than cheque because of advantages and security aspects associated with it. For banks issuing card cost less compare to issuing cheques. Though it saves stationary cost, it is very expensive for banks. For card issuance, the bank should invest huge capital on the equipments and technology. The banks need to work hard to get profit from it. The card business is inevitable for any bank to survive in the present market. That's why; even the government banks like Rastriya Banijya Bank Limited have started issuing and acquiring cards. Card banking is one of the main tools of cross selling the other banking products. Without card banking, customers do not show interest in establishing relationship with the bank.

The Card business in Nepal is being looked upon by most of the banks today. Earlier there used to be very few players in Card Business but today, there are almost all the banks that issue debit card. The issuance of cards has drastically grown and so is with the ATMs. Because of its ease and security, people today prefer using cards rather than cash in many merchant outlets and they prefer going to ATMs than going to the bank's teller to withdraw cash. Hence, it can be concluded that Card Business in Nepal is gaining popular. Thus, banks have started concentrating on Card Business and at the same time, customers prefer using cards and ATMs. Also the consumers were very aware about their pin code. They were not share pin code with others. They were changing their pin code on 3 months duration. They referred pin based transaction. They were self entered the pin code when they used card on POS machine. They were immediately calling the support center to block the card for lost or damaged the card.

For Nepal, card is the latest development in banking technology. Today, all the banks are trying to increase their cardholder base. The usage of card especially debit card is taking fast pace in the card market. The card not only benefits the cardholder but also the merchants. The merchants can overcome the hassle of managing hard cash by accepting more and more cards. Accepting card makes their business easy and saves their time. But the most of merchant feel that they will have to share profit with service provider as a service charge when POS transaction. Nepalese Merchants who are not interested for upgrading their sales through POS due to they cannot getting so much benefit from the debit card technology.

The scenario of debit cards during 2012-2013 is very significant. Many card holders prefer debit card due to its pin based security. Customers prefer debit cards. The debit cards to help them avoid carrying cash and enable withdrawal of cash through ATM and they need not be afraid of falling into debt trap. Due to financial inflation, many banks have issuing debit cards to their customers. As people are yet to realize the complete potential of debit card.

5.3 Recommendations

Based on the findings of the study the following recommendations are made here:

- The methods should be adopted to bring a higher degree of popularization of this debit card through mass media channel like television, radio, and super markets with a pictorial review of the card facility.
- It is identified from the study that respondents did not consider the supporting services for purchase evaluation. They only get the account debit/credit information in the paper form. This is due to inadequate information regarding supporting services. Providing knowledge about supporting services to customers can help the bankers to develop an advantage for themselves in the market.
- The most sensible part of a debit card is the awareness of card holders due to leak of card pin information. Card-holders of debit cards are not aware of this. Hence awareness should be created about this. It seems that proper awareness to the user of any modern technology before providing them such technologies is very necessary.
- It is found from the analysis made in the study that the most of merchants feel that they will have to share their profit with service provider as a service charge when POS transaction. Hence minimum amount should be charged to the merchant.
- It is found from the analysis made in the study that the most of merchants feel that they cannot getting so much benefit from this technology. Due to POS facility card holders are able to do more and more shopping even though they don't have physical cash in hand. The service provider should convince that, it ultimately increases the profit to merchants.
- It is found from the analysis made in the study that the discouraging factor about debit card is exceeded personal limit. The debit card limit availed by card holders are fixed the

available balance in the account. The fact of debit card should be known to all the card holders.

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APPENDIX

QUESTIONNAIRE

Respected Sir/Madam,

As a part of my thesis, I would like to gather some information from you which will help me in depth study of thesis. The findings are strictly to be used for academic purpose only.

Thank you for sparing your time to participate in the study.

Kapila Shrestha

Name: *

[]

EmailId:

[]

Gender: *

Male

Female

Age: *

Less than 20

20-30

31-45

More than 45

Education: *

Illiterate

Under Graduate

Bachelor Degree

Master Degree and above

What are the different motives behind carrying debit cards? *

Better acceptability

To avail different offer

Fashion statement

All of above

What factor motivated you to use debit card? *

Time saving

Instant transaction

Easy to use

All of above

Frequency of use of debit cards. *

Very Often

Often

Sometimes

Rarely

What factor contribute towards the choice of a debit card? *

Looks of the card

Power by (SCT/NPN/Visa)

Marketing campaign

Image of issuer bank

How frequently you change your pin code of debit card? *

15 days

1 month

3 months

Never changed

Do you share your pin code with others? *

Yes

No

Which debit card you prefer: Pin based or Signature Based? *

Pin based

Signature based

Both

How do you enter pin code, when you used POS machine? *

Self

Provide debit card and pin code to seller

Take a decision as per the situation

How you receive information about account debit/credit while using debit card services? *

Paper form

Through Internet

Through SMS

All of above

What you will do when you lost/damage your debit card? *

Immediately call to support center

Inform the bank about the card later

Don't care

For what purposes you use Debit card?

(Priority: 1 for Max - 3 for Min)

	1	2	3
POS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ATM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
POS Cash Advance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Do you have kept debit card number and account information in your diary for reference in case of lost of debit card. *

Yes

No

No idea

The traffic of city due to customer who is going for withdrawal to bank will ultimately reduces with Card Transaction concept. *

Yes

No

() May be

Most of merchants feel that they will have to share their profit with service provider as a service charge when POS transaction. *

() Strongly agree

() Agree

() Disagree

() Strongly disagree

Nepalese Merchants who are not interested for upgrading their sales through POS. *

(Priority: 1 for most important factor - 4 for least Important factor)

	(1)	(2)	(3)	(4)
Lack of information	()	()	()	()
Difficult to Implement	()	()	()	()
Need to Share their profit as service charge	()	()	()	()
Cannot getting so much benefit from this technology	()	()	()	()

Risk of carrying physical cash will reduce with debit card technology. *

Strongly agree

Agree

Disagree

Strongly disagree

Discouraging factors about debit card. *

(Priority: 1 for most important factor - 4 for least Important factor)

	(1)	(2)	(3)	(4)
Concern about security	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of ATM knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Purchase value too small	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exceeded personal limit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Threats of debit card service providers. *

(Priority: Use 1 for most threat - 4 for least threat)

	(1)	(2)	(3)	(4)
--	-----	-----	-----	-----

	(1)	(2)	(3)	(4)
Economical Crisis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Government Policy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cyber law	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hackers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Level of awareness programs organized by government sector about modern payment technology. *

- Sufficient Level
- Minimum Level
- Never heard about such programs

Cyber Law in Nepal is adequate for current scenario. *

- Yes
- No
- May be