

# CHAPTER - I

## INTRODUCTION

### **1.1 Background of the Study**

The rapid development of any country in this modern era depends to a large extent on the level of financial activities. Financial activities play a role of catalyst in the process of economic development of a country. Industrialization is key factor in the process of economic development and its importance as a means of achieving economic growth and prosperity has long been recognized in the economic literature. Industrialization offers prospect for the expansion of employment, but it also helps to accelerate the development of other sector of the economy. It is one of the major tools with the aid of which the various circle of backwardness and poverty can be broken. Industrialization is indeed considered as being synonymous with the economic development meant a rising gross national product an increase in investment, consumption and rising standard of living. Marketing is one of the key elements for the development, expansion, and growth of industrial sector and ultimately for the economic development of the country. Marketing is said to be the most important element for product development. There is good reason for this. Marketing means the life or death of a product. Everything from the concept of a new product to meeting customers' needs is a part of marketing in new product development. With the right research, a product will be successful from the beginning.

A marketing imperative will lead to a free market, free enterprise, democratic society as LDC responds to the pressure of a competitive arena, which seeks the highest quality product at the lowest price. Individuals will create much of the needed institutional infrastructure, as they recognize the opportunities for profit that arise. The development of an advance in any economy must be accompanied by a change in culture, a daunting undertaking. A culture may be changed by verdict, but such revisions are not likely to be accepted. The technology approach could be effective in gaining acceptance, but would take many years to accomplish. The main objective is

to create a culture that is compatible with the free-enterprise economic model which seems to be emerging world-wide. Their approach is that the societal values and beliefs will emerge from market opportunities that are seen to yield profit. As these opportunities expand and draw larger numbers of the population into their net, necessary changes will occur in the culture in order to permit the continued economic expansion. Various technologies are rapidly introducing in market in every sector of economy. Out of various sector, financial sector is growing rapidly in Nepal and latest technology is supposed to be introduce as per the needs.

Today's savvy consumers expect more from their financial institution. As consumer expectations regarding service, convenience and personalization continue to evolve, branch transformation will play an ever-increasing role. Branch personnel responsibilities are transitioning to higher revenue-generating transactions, leaving an imperative need to create efficiencies that will compensate for this shift. Teller cash recycling solves this need. Explore consumer and market trends driving branch transformation discuss the implications of transaction migration to self-service delivery channels, Offer insight into the evolving design of the modern bank and prove the importance of teller automation in this new retail banking environment.

Nabil bank is the first bank to introduce credit card in Nepal. in early 1990. ATM in Nepal was first introduced by another joint venture bank, HBL in 1995. It Policy was formulated in 2000. The efficient operating practice and policy adopted by these joint venture banks helps Nepal to take a step in this banking field.

### **1.1.1 Introduction of ATM**

ATM means neither “avoids traveling with money” nor “any time money,” but certainly implies both. Slim ATM cards are fast replacing confounding withdrawal forms as a convenient way of getting your money from banks. In a way, they are rewriting the rules of financial transaction. A smart person no longer needs to carry a wallet-full of paper money on his person.

An Automated teller machine, also known as Automatic Banking Machine , Cash machine or Cash point is a computerized telecommunications device that provides the clients of financial institutions with access to financial transactions in a public space without the need for a cashier, human clerk or bank teller. Using ATM, customers can access their bank accounts in order to make cash withdrawals, credit card cash advances, check their account balances as well as purchase prepaid cell phone credit. If the currency being withdrawn from the ATM is different from that which the bank account is denominated in the money will be converted at a wholesale exchange rate. For example, withdrawing Nepalese rupees from a bank account containing US Dollars. Thus, ATM often provides the best possible exchange rate for foreign travelers and is heavily used for this purpose as well. ATM report rolls aids although you withdraw money from the accounts by giving you a receipt from the amount you might have withdrawn. This kind of receipts is of great aid to retain a check on your account sense of balance. These receipts also indicate you in the event someone else is making use of your ATM card without your permission as you are able to total the quantity of receipts you have and get to learn the precise sense of balance you might have withdrawn and then examine whether the earlier and remaining balance are in accordance with the quantity withdrawn.

ATM cardstock rolls are nothing but the most reliable and highly long lasting thermal paper rolls, obtained in the type of a cash receipt or perhaps a printed type. These thermal-paper-rolls aren't only well-known at ATM points, but are also broadly observed at credit card terminals, point of sale techniques, fax processes and retailers generating printed types frequently. Typically once you walk into an ATM, and swipe your card against a magnetic reader, what you receive is really a needed quantity of money together using a receipt with the transaction produced. The receipt using a sleek surface in the best can be a thermal paper roll that receives neatly cut out in the kind of a receipt, with the aid of your cutter set up within the device. There are several advantages to using thermal report rolls along with your POS printer, charge card or ATM machines. Reliability is one this kind of advantage. The printing on Thermal report is clearer then a regular cardstock, and is less probably being

grubby. An additional advantage to utilizing Thermal cardstock rolls is the fact that it can be really easy to deal with in all with the applications that take thermal cardstock. This report is made to work at diverse temperatures, and at times it is built to resist points like water, oils, plastics, and adhesives. The thermal printing paper is usually identified for substantial speed printing that is why most company firms commonly use it in their each day operations. With all the up gradation in thermal cardstock production, the ATM rolls now possess a protective coating around it to stop the wearing off from the print head and safeguarding crucial data, making it most reliable and user friendly.

The ATM cardstock rolls are usually white colored and smooth surfaced thermal rolls chemically treated to turn dark when heated. The method of performing so enables the formation of required characters, generally using the aid of black ink that goes to the printing of thermal cardstock. The ATM rolls could be easily procured out of your nearest office supply keep or from a mélange of businesses online. It assists folks who use their ATM cards to get to know their stability just before withdrawing cash from their bank accounts. The balance can also be displayed for the display of the ATM machine however it isn't as trustworthy as having your account sense of balance printed on the piece of paper as it can be seen once more and once again preventing you from forgetting your sense of balance afterwards. ATM papers rolls aids you in providing receipts with the money you might have deposited in your accounts that will not merely act as an evidence in case the money does not get transferred but in addition acts being a verification about your hard cash in hand.

Due to the importance and require of possessing receipt on the end of each transaction unique ATM paper rolls in which released which had been according for the size from the ATM equipment to ensure that the paper will not get stuck just in case it's greater than the location from which the receipt is suppose to pass and doesn't even will get untidy as soon as it comes out.

### **1.1.2 Evolution of ATM Programs**

The Nepal ATM industry has seen explosive growth in recent times. ATM represent the single largest investment in the electronic channel services for the Banks. In Nepal, HBL Limited set the trend and set up the first ATM machine here in 1995. Since then, they have become a common sight in many of our metros. ATM has gained prominence as a delivery channel for banking transactions in Nepal. Banks have been deploying ATM to increase their reach. While ATM facilitates a variety of banking transactions for customers, their main utility has been for cash withdrawal and balance enquiry. As at the end of October 2009, the number of ATM deployed in Nepal was more than 2000 ATM among them most of them are of Diebold ATM machine then after NCR company and few Wincore machine' According to some estimates the total cash movement through ATM across Nepal was around Rs. 2,000 crore in FY 2009. Clearly, industry watchers forecast a bright future for ATM in Nepal. While the ATM is a great service for customers, for the banks it means immense savings on the cost of operations. While a typical cash transaction carried out in a banks branch premise would cost Rs 64 that in an ATM will only cost Rs 29 translating into a cost saving of Rs 35 per transaction.

### **ATM Networks**

The ATM of a bank are connected to the accounting platform of the bank through ATM switches. Inter-bank ATM networks are created by setting up apex level switches to communicate between the ATM switches of different banks. The inter-bank ATM networks facilitate the use of ATM cards of one bank at the ATM of other banks for basic services like cash withdrawal and balance enquiry. Banks owning the ATM charge a fee for providing the ATM facility to the customers of other banks. The ATM deploying bank from the card issuing banks recovers this fee referred to as 'interchange fee'. However the interchange fee is not fixed across banks and depends on the terms of bilateral / multilateral arrangements. Banks with larger ATM network treat interchange fee as an important stream of revenue.

### **Inter-connectivity of ATM Networks for enhanced access**

Inter-connectivity of ATM Networks provides access to the customers to use any ATM in the country irrespective of the bank with which the customer is banking. The ATM switches are linked to VISA or MasterCard gateways.

### **1.2 Significance of the Study**

Marketing has plays a huge role in the economy today and cheapest way to introduced the product in the market. In today's modern business world, the need of marketing is indispensable. Every marketing campaign is using "Marketing Mix" policy which consists of four P's of marketing. They are product, price, place, and promotion. These are the things that marketers apply to try to meet the needs of their customers. This means that they come up with a product to meet their needs, price it accordingly, find a way to deal with the logistics of getting the product to a location where it can be sold, and they also try to find a way to reach their potential customer to let them know how their product will satisfy their needs.

### **1.3 Statement of the Problem**

The Nepalese ATM industry has seen explosive growth in recent times. ATM represents the single largest investment in the electronic channel services for the banks. The ATM has become a common sight in many of our city. ATM has gained prominence as a delivery channel for banking transaction in Nepal. Bank have been deploying ATM to increase their reach while ATM facilitate a variety of banking transactions for customer their main utility has been for cash withdrawal and balance inquiry. In today's world, the popularity of Interconnectivity of ATM is increasing day by day. It is very useful for the customer to use any ATM in the country irrespective of the bank with which the customer is banking. The ATM of a bank are connected to the accounting platform of the bank through ATM switches. The inter bank ATM networks facilitate the use of ATM cards of one bank at the ATM of other bank for basic services like cash withdrawal and balance enquiry. Careful analysis should be done in this regard for the success of this easiest customer utility. This is lacking in Nepal. Very few analysis and research is conducted regarding this. Hence,

the main objective of this thesis is to provide useful information regarding the ATM marketing in Nepal to different group of people particularly in urban areas. This survey will try to solve the questions like how useful is ATM service among the banking customers. Is it popular among youngsters or middle-aged or is it popular among older people?

The Nepalese business houses can generate many ideas in the field of marketing area through this type of survey. In addition, the survey like this will be very helpful for the distributors for the success of the marketing. From this context, in a developing country like Nepal, this type of study is must. In this ground the study deals with the following issues:

Which age group people prefer ATM more?

Which educational level people prefer ATM more?

Which gender people prefer ATM more?

How ATM could help financial sector to improve their facilities?

What are the reactions of people towards the ATM?

Do consumers prefer ATM Product?

Does marketing involve adequate information?

Does marketing influence people positively?

Does the marketing of ATM influence the people?

What role, if any, might technology play?

What are the facilities provided by sample banks?

Which factor influences the people to use ATM services?

#### **1.4 Objectives of the Study**

The principal objective of this research work is to analyze the general impact of ATM's on consumer behavior. However, the specific objectives of the study are outlined at next page:

- ) To examine the consumers preferences on ATM's.
- ) To examine the popularity of the ATM's marketing.
- ) To analysis the effectiveness of the marketing of ATM's.

) To examine the factors that influence to choice of ATM's.

### **1.5 Focus of the Study**

The study is limited to the study of on the topic "IT Marketing in Nepal" (A study on ATM product). The bank has launched different ATM product as prescribed by IT policy. So this study will consist the analysis of market status regarding ATM with compliance to IT directive and will evaluate the insight of the present status of the existing ATM of different company.

### **1.6 Organization of the Study**

The thesis has been divided into five chapters. Those are:

Chapter I: Introduction

Chapter II: Review of Literature

Chapter III: Research Methodology

Chapter IV: Presentation and Analysis of Data

Chapter V: Summary, Conclusions and Recommendation

Chapter I: Introduction

The introduction chapter covers background of the study, statement of problem, objectives of the study, significance of the study, limitations of the study and organization of the study.

Chapter II: Review of Literature

The second chapter focuses on review of literature. It contains the conceptual framework and review of past research study related with IT Products i.e; ATM.

Chapter III: Research Methodology

The third chapter deals with the research methodology to be adopted for the study consisting research design, sources of data, data gathering procedure, population and sample, research variables and data processing procedure.



**Chapter IV: Presentation and Analysis of Data**

The fourth chapter deals with, presentation, analysis, interpretation and major findings of primary data collected from questionnaires.

**Chapter V: Summary, Conclusions and Recommendation**

The last chapter covers the summary, conclusions and recommendation of the study.

The bibliography and annexes are also included as supplement to the above chapters.

## **CHAPTER – II**

### **REVIEW OF LITERATURE**

This chapter is concerned with review of literature relevant to the topic “IT Marketing in Nepal”. Several research works has been done in various aspects of commercial banks especially in IT sector. In Nepal, independent research has not yet been undertaken in this field and related books are not published. Hence, some of the related articles published concerned financial journals, bulletins, dissertation papers, magazines, newspapers & website visit in brief are review below.

This chapter has been divided into two parts:

- J        Conceptual Review
- J        Review of IT in Nepal
- J        Review of relevant research studies

#### **2.1 Conceptual Review**

##### **2.1.1 Automatic Teller Machine**

An automated teller machine, also known as a Cash Machine and by several other names, is a computerized telecommunications device that provides the clients of a financial institutions with access to financial transaction in a public space without the need for a cashier, human clerk or Bank teller. On most modern ATM, the customer is identified by inserting a plastic ATM card with a magnetic stripe or a plastic smart card with a chip, that contains a unique card number and some security information such as an expiration date or card security code. Authentication is provided by the customer entering a personal identification number. Using an ATM, customers can access their bank accounts in order to make cash withdrawals, credit card cash advances, and check their account balances as well as purchase prepaid cell phone credit. If the currency being withdrawn from the ATM is different from that which the bank account is denominated in For example: Withdrawing Japanese Yen from a bank account containing US Dollars, the money will be converted at a wholesale

exchange rate. Thus, ATM often provides the best possible exchange rate for foreign travelers and are heavily used for this purpose as well.

ATM are known by various other names including automatic banking machine or automated banking machine particularly in the United States , automated transaction machine, cash point particularly in the united Kingdom, money machine, bank machine, cash machine, hole-in-the-wall, auto teller after the Bank of Scotland's usage, cash line machine after the Royal Bank of Scotland's usage , MAC Machine in the Philadelphia area , Bankomat in various countries particularly in Europe and including Russia , Multibanco after a registered trade mark, in Portugal , Minibank in Norway, Geld Automaat in Belgium and the Netherlands, and All Time Money in India.

### **History**

The idea of self-service in retail banking developed through independent and simultaneous efforts in Japan, Sweden, the United States and the United Kingdom. In the USA, Luther George Simjian has been credited with developing and building the first cash dispenser machine. There is strong evidence to suggest that Simjian worked on this device before 1959 while his 132nd patent (US3079603) was first filed on 30 June 1960 and granted 26 February 1963. The rollout of this machine, called Bankograph, was delayed a couple of years. This was due in part to Simjian's Reflectone Electronics Inc. being acquired by Universal Match Corporation. An experimental Bankograph was installed in New York City in 1961 by the City Bank of New York, but removed after 6 months due to the lack of customer acceptance. The Bankograph was an automated envelope deposit machine and it did not have cash dispensing features. The Bankograph, however, embodied the preoccupation by US banks in finding alternative means to capture core deposits, while the concern of European and Asian banks was cash distribution.

A first cash dispensing device was used in Tokyo in 1966. Although little is known of this first device, it seems to have been activated with a credit card rather than

accessing current account balances. This technology had no immediate consequence in the international market. In simultaneous and independent efforts, engineers in Sweden and Britain developed their own cash machines during the early 1960s. The first of these that was put into use was by Barclays Bank in Enfield Town in North London, United Kingdom, on 27 June 1967. This machine was the first in the UK and was used by English comedy actor Reg Varney, at the time so as to ensure maximum publicity for the machines that were to become main stream in the UK. This instance of the invention has been credited to John Shepherd Barron while disregarding other engineers at De La Rue Instruments who contributed to the design and development of that machine. Nevertheless, Shepherd-Barron was awarded an OBE in the 2005 New Year's Honours List. His design used special checks that were matched with a personal identification number, as plastic bank cards had not yet been invented. The Barclays-De La Rue machine DACS beat the Swedish saving banks and a company called Metior's a device called Bankomat by nine days and Westminster Bank's-Smith Industries-Chubb system called Chubb MD2 by a month. The collaboration of a small start-up called Speytec and Midland developed a third machine which was marketed after 1969 in Europe and the USA by the Burroughs Corporation. The patent for this device GB1329964 was filed on September 1969 and granted in 1973) by John David Edwards, Leonard Perkins, John Henry Donald, Peter Lee Chappell, Sean Benjamin Newcombe & Malcom David Roe.

Both the DACS and MD2 accepted only a single-use token or voucher which was retained by the machine while the Speytec worked with a card with a magnetic stripe at the back. Hence all these worked on various principles including Carbon-14 and low-coercively magnetism in order to make fraud more difficult. The idea of a PIN stored on the card was developed by a British engineer working in the MD2 named James Good fellow in 1965 patent GB1197183 filed on 2 May 1966 with Anthony Davies. The essence of this system was that it enabled the verification of the customer with the debited account without human intervention. This patent is also the earliest instance of a complete “currency dispenser system” in the patent record. This patent was filled on 5 March 1968 in the USA (US 3543904) and granted on 1

December 1970. It had a profound influence on the industry as a whole. Not only did future entrants into the cash dispenser market such as NCR Corporation and IBM license Good fellow's PIN system, but a number of later patents reference this patent as "Prior Art Device.

After looking first hand at the experiences in Europe, in 1968 the networked ATM was pioneered in Dallas, Texas, by Donald Wetzel who was a department head at an automated baggage-handling company called Docutel. On September 2, 1969, Chemical Bank installed the first ATM in the U.S. at its branch in Rockville Centre, New York. The first ATM were designed to dispense a fixed amount of cash when a user inserted a specially coded card. A Chemical Bank advertisement boasted "On Sept. 2 our bank will open at 9:00 and never close again." Chemicals' ATM, initially known as a Docuteller was designed by Donald Wetzel and his company Docutel. Chemical executives were initially hesitant about the electronic banking transition given the high cost of the early machines. Additionally, executives were concerned that customers would resist having machines handling their money. In 1995, the Smithsonian National Museum of America History recognized Docutel and Wetzel as the inventors of the networked ATM.

ATM first came into use in December 1972 in the UK; the IBM 2984 was designed at the request of Lloyds Bank. The 2984 CIT (Cash Issuing Terminal) was the first true Cash point, similar in function to today's machines; Cash point is still a registered trademark of Lloyds TSB in the UK. All were online and issued a variable amount which was immediately deducted from the account. A small number of 2984s were supplied to a US bank. Notable historical models of ATM include the IBM 3624 and 473 x series, Diebold 10xx and TABS 9000 series, and NCR 50xx series.

### **Location**

An ATM Encrypting PIN Pad with German markings ATM are placed not only near or inside the premises of banks, but also in locations such as shopping centers/malls, airports, grocery stores, petrol/gas stations, restaurants, or any place large numbers of

people may gather. These represent two types of ATM installations: on and off premise. On premise ATM are typically more advanced, multi-function machines that complement an actual bank branch's capabilities and thus more expensive. Off premise machines are deployed by financial institutions and also ISOs where there is usually just a straight need for cash, so they typically are the cheaper mono-function devices. In Canada, when an ATM is not operated by a financial institution it is known as a "White Label ATM". In North America, banks often have drive-thru lanes providing access to ATM. Many ATM have a sign above them indicating the name of the bank or organization owning the ATM, and possibly including the list of ATM networks to which that machine is connected. This type of sign is called a topper.

### **Financial networks**

Most ATM are connected to inter bank networks, enabling people to withdraw and deposit money from machines not belonging to the bank where they have their account or in the country where their accounts are held (enabling cash withdrawals in local currency). Some examples of inter bank networks include PULSE, PLUS, Cirrus, Interac, Interswitch, STAR, and LINK. ATM rely on authorization of a financial transaction by the card issuer or other authorizing institution via the communications network. This is often performed through an ISO 8583 messaging system. Many banks charge ATM usage fees. In some cases, these fees are charged solely to users who are not customers of the bank where the ATM is installed; in other cases, they apply to all users. In order to allow a more diverse range of devices to attach to their networks, some inter bank networks have passed rules expanding the definition of an ATM to be a terminal that either has the vault within its footprint or utilizes the vault or cash drawer within the merchant establishment, which allows for the use of a scrip cash dispenser.

### **Security**

A Triton brand ATM with a dip style card reader and a triple DES keypad Security, as it relates to ATM, has several dimensions. ATM also provide a practical

demonstration of a number of security systems and concepts operating together and how various security concerns are dealt with.

### **Physical**

Early ATM security focused on making the ATM invulnerable to physical attack; they were effectively safes with dispenser mechanisms. A number of attacks on ATM resulted, with thieves attempting to steal entire ATM by ram-raiding. Since late 1990s, criminal groups operating in Japan improved ram-raiding by stealing and using a truck loaded with a heavy construction machinery to effectively demolish or uproot an entire ATM and any housing to steal its cash. Another attack method, plofkraak, is to seal all openings of the ATM with silicone and fill the vault with a combustible gas or to place an explosive inside, attached, or near the ATM. This gas or explosive is ignited and the vault is opened or distorted by the force of the resulting explosion and the criminals can break in. Modern ATM physical security, per other modern money-handling security, concentrates on denying the use of the money inside the machine to a thief, by means of techniques such as dye markers and smoke canisters. A common method is to simply rob the staff filling the machine with money. To avoid this, the schedule for filling them is kept secret, varying and random. The money is often kept in cassettes, which will dye the money if incorrectly opened.

### **Transactional secrecy and integrity**

The security of ATM transactions relies mostly on the integrity of the secure crypto processor the ATM often uses commodity components that are not considered to be "trusted systems". Encryption of personal information, required by law in many jurisdictions, is used to prevent fraud. Sensitive data in ATM transactions are usually encrypted with DES, but transaction processors now usually require the use of Triple DES. Remote Key Loading techniques may be used to ensure the secrecy of the initialization of the encryption keys in the ATM. Message Authentication Code (MAC) or Partial MAC may also be used to ensure messages have not been tampered with while in transit between the ATM and the financial network.

### **Customer identity integrity**

There have also been a number of incidents of fraud by Man-in-the-middle attacks, where criminals have attached fake keypads or card readers to existing machines. These have then been used to record customers' PINs and bank card information in order to gain unauthorized access to their accounts. Various ATM manufacturers have put in place countermeasures to protect the equipment they manufacture from these threats. Alternate methods to verify cardholder identities have been tested and deployed in some countries, such as finger and palm vein patterns, iris, and facial recognition technologies. However, recently, cheaper mass production equipment has been developed and is being installed in machines globally that detect the presence of foreign objects on the front of ATM, current tests have shown 99% detection success for all types of skimming devices.

### **Device operation integrity**

ATM that are exposed to the outside must be vandal and weather resistant. Openings on the customer-side of ATM are often covered by mechanical shutters to prevent tampering with the mechanisms when they are not in use. Alarm sensors are placed inside the ATM and in ATM servicing areas to alert their operators when doors have been opened by unauthorized personnel. Rules are usually set by the government or ATM operating body that dictate what happens when integrity systems fail. Depending on the jurisdiction, a bank may or may not be liable when an attempt is made to dispense a customer's money from an ATM and the money either gets outside of the ATM's vault, or was exposed in a non-secure fashion, or they are unable to determine the state of the money after a failed transaction. Bank customers often complain that banks have made it difficult to recover money lost in this way, but this is often complicated by the bank's own internal policies regarding suspicious activities typical of the criminal element.

### **Customer security**

In some countries, multiple security cameras and security guards are a common feature. In the United States, The New York State Comptroller's Office has criticized



the New York State Department of Banking for not following through on safety inspections of ATM in high crime areas. Critics of ATM operators assert that the issue of customer security appears to have been abandoned by the banking industry; it has been suggested that efforts are now more concentrated on deterrent legislation than on solving the problem of forced withdrawals.

At least as far back as July 30, 1986, critics of the industry have called for the adoption of an emergency PIN system for ATM, where the user is able to send a silent alarm in response to a threat. Legislative efforts to require an emergency PIN system have appeared in Illinois, Kansas and Georgia, but none have succeeded as of yet. In January 2009, Senate Bill 1355 was proposed in the Illinois Senate that revisits the issue of the reverse emergency PIN system. The bill is again resisted by the banking lobby and supported by the police. In 1998 three towns outside of Cleveland Ohio, in response to an ATM crime wave, adopted ATM Consumer Security Legislation requiring that a 9-1-1 switch be installed at all outside ATM within their jurisdiction. Since the passing of these laws 11 years ago, there have been no repeat crimes. In the wake of an ATM Murder in Sharon Hill, Pennsylvania, The City Council of Sharon Hill passed an ATM Consumer Security Bill as well, with the same result. As of July 2009, ATM Consumer Security Legislation is currently pending in New York, New Jersey, and Washington D.C. In China, many efforts to promote security have been made. On-premises ATM are often located inside the bank's lobby which may be accessible 24 hours a day. These lobbies have extensive CCTV coverage, an emergency telephone and a security guard on the premises. Bank lobbies that aren't guarded 24 hours a day may also have secure doors that can only be opened from outside by swiping your bank card against a wall-mounted scanner, allowing the bank to identify who enters the building. Most ATM will also display on-screen safety warnings and may also be fitted with convex mirrors above the display allowing the user to see what is happening behind them.

### **Alternative uses**

Two NCR Personas 84 ATM at a bank in Jersey dispensing two types of pound sterling banknotes: Bank of England notes on the left, and States of Jersey notes on the right Although ATM were originally developed as just cash dispensers, they have evolved to include many other bank-related functions. In some countries, especially those which benefit from a fully integrated cross-bank ATM network (e.g.: Multibanco in Portugal), ATM include many functions which are not directly related to the management of one's own bank account, such as:

- J Deposit currency recognition, acceptance, and recycling
- J Paying routine bills, fees, and taxes (utilities, phone bills, social security, legal fees, taxes, etc.)
- J Printing bank statements
- J Updating passbooks
- J Loading monetary value into stored value cards
- J Purchasing
  - o Postage stamps.
  - o Lottery tickets
  - o Train tickets
  - o Concert tickets
  - o Movie tickets
  - o Shopping mall gift certificate
- J Games and promotional features
- J Donating to charities
- J Cheque Processing Module
- J Adding pre-paid cell phone / mobile phone credit.
- J Paying (in full or partially) the credit balance on a card linked to a specific current account.

Increasingly banks are seeking to use the ATM as a sales device to deliver pre approved loans and targeted advertising using products such as ITM (the Intelligent Teller Machine) from CR2 or Aprta Relate from NCR. ATM can also act as an

advertising channel for companies to advertise their own products or third-party products and services.

In Canada, ATM are called guichets automatiques in French and sometimes "Bank Machines" in English. The Interac shared cash network does not allow for the selling of goods from ATM due to specific security requirements for PIN entry when buying goods. CIBC machines in Canada are able to top-up the minutes on certain pay as you go phones. A South Korean ATM with mobile bank port and bar code reader Manufacturers have demonstrated and have deployed several different technologies on ATM that have not yet reached worldwide acceptance, such as:

- J Biometrics, where authorization of transactions is based on the scanning of a customer's fingerprint, iris, face, etc. Biometrics on ATM can be found in Asia.
- J Cheque/Cash Acceptance, where the ATM accepts and recognise cheques and/or currency without using envelopes. Expected to grow in importance in the US through Check 21 legislation.
- J Bar code scanning
- J On-demand printing of "items of value" (such as movie tickets, traveler's cheques, etc.)
- J Dispensing additional media (such as phone cards)
- J Co-ordination of ATM with mobile phones
- J Customer-specific advertising
- J Integration with non-banking equipment

### **Reliability**

Before an ATM is placed in a public place, it typically has undergone extensive testing with both test money and the backend computer systems that allow it to perform transactions. Banking customers also have come to expect high reliability in their ATM, which provides incentives to ATM providers to minimize machine and network failures. Financial consequences of incorrect machine operation also provide high degrees of incentive to minimize malfunctions. ATM and the supporting

electronic financial networks are generally very reliable, with industry benchmarks typically producing 98.25% customer availability for ATM and up to 99.999% availability for host systems. If ATM do go out of service, customers could be left without the ability to make transactions until the beginning of their bank's next time of opening hours. This said, not all errors are to the detriment of customers; there have been cases of machines giving out money without debiting the account, or giving out higher value notes as a result of incorrect denomination of banknote being loaded in the money cassettes. Errors that can occur may be mechanical (such as card transport mechanisms; keypads; hard disk failures); software (such as operating system; device driver; application); communications; or purely down to operator error. To aid in reliability, some ATM print each transaction to a roll paper journal that is stored inside the ATM, which allows both the users of the ATM and the related financial institutions to settle things based on the records in the journal in case there is a dispute. In some cases, transactions are posted to an electronic journal to remove the cost of supplying journal paper to the ATM and for more convenient searching of data. Improper money checking can cause the possibility of a customer receiving counterfeit banknotes from an ATM. While bank personnel are generally trained better at spotting and removing counterfeit cash, the resulting ATM money supplies used by banks provide no absolute guarantee for proper banknotes, as the Federal Criminal Police Office of Germany has confirmed that there are regularly incidents of false banknotes having been dispensed through bank ATM. Some ATM may be stocked and wholly owned by outside companies, which can further complicate this problem. Bill validation technology can be used by ATM providers to help ensure the authenticity of the cash before it is stocked in an ATM; ATM that have cash recycling capabilities include this capability.

The automatic teller machine (ATM), used by banks and customers for a variety of functions, was patented in 1939, but failed initially due to limited functionality. Something more similar to the modern ATM emerged on the streets of London in 1967, introducing a new era of banking convenience. The functions of ATM machines include:

### 1. Withdrawals

Perhaps the most common function of the modern ATM, withdrawals are usually allowed from a user's savings or checking account.

### 2. Deposits

Similarly, most (but not all) ATM allow deposits to be made to both checking and savings accounts. These deposit functions usually require cash or checks in envelopes, and can sometimes be accomplished by credit card.

### 3. Balance Inquiries

Another common function of the ATM is the ability to check account balance, for savings or checking, and to print out that balance for future reference.

### 4. Account Transfers

Account transfer is a popular function for those who carefully manage the funds in more than one account, and can be used to move funds from one account (for example, a checking account) to another (like a savings account).

### 5. Stamp Purchases

An increasingly popular function of modern ATM is the ability to buy stamps. Although this functionality is not available at all ATM, its popularity has been sufficient for its availability to expand (Sources: From Wikipedia, the free encyclopedia Website: <http://en.wikipedia.org>).

## **2.2 Review of Present IT Market Scenario in Nepal**

The Nepalese Information Technology industry is playing a major role in placing Nepal on the international map. The industry is mainly governed by IT software and facilities for system integration, software experiments, CADM , network services and IT solutions. According to a research Nepalese IT-BPO industry expanded by 90% during the fiscal year 2009. Out of the derived good revenue was solely earned by the

software and services division. Moreover, the industry witnessed an increase of many more in coming days too.

### **2.2.1 IT Outsourcing in Nepal**

IT exports in Business Process Outsourcing services generate good revenues by the year 2009 and accounted for more than 40% of the entire software and services income. Over the years Nepal has been the most favorable outsourcing hub for firm on a lookout to offshore their IT operations. The factors behind Nepal being a preferred destination are its reasonably priced labor, favorable business ambience and availability of expert workforce. Considering its escalating growth, IBM, Lenovo, Dell, Acer, etc. has plans to increase its BPO functions in Nepal workforces to assist its growth.

### **2.2.2 Nepal's domestic IT Market**

- )] Nepal's domestic IT Market over the years has become one of the major driving forces of the industry. The domestic IT infrastructure is developing contexts of technology and intensity of penetration.
- )] Government initiative in Nepal's domestic IT Market
- )] The Nepalese government (Ministry of Information & Technology) has established a National taskforce on IT with an aim of formatting a durable National IT Policy for Nepal.
- )] Endorsement of the IT Act, which offers an authorized structure to assist electronic trade and electronic operations.
- )] Major investments in Nepal's domestic IT Market
- )] According to the Government the IT Park at Banepa will witness an huge investment in the next few years.
- )] Technology based IT firm is looking forward to invest few millions by 2011 in Nepal.

### **2.2.3 Future of Nepalese IT Industry**

- J The Nepalese IT sector persists to be one of the flourishing sectors of financial system indicating a speedy expansion in the coming years. As per a research the Nepalese IT exports are anticipated to attain good amount of US\$ by 2020 for the work is in the process.
- J In the total export and domestic IT sector are expected to attain profits along with new prospects from Chinese, Taiwan, Singapore & Japanese Markets too for its outsourcing operations.
- J Information technology, and the hardware and software associated with the IT industry, are an integral part of nearly every major global industry.
- J Unlike other common industries, the IT industry is knowledge-based.
- J Efficient utilization of skilled labor forces in the IT sector can help an economy achieve a rapid pace of economic growth.
- J The IT industry helps many other sectors in the growth process of the economy including the services and manufacturing sectors.

### **2.2.4 The role of the IT Industry**

The IT industry can serve as a medium of e-governance, as it assures easy accessibility to information. The use of information technology in the service sector improves operational efficiency and adds to transparency. It also serves as a medium of skill formation. The information technology industry has become if the most robust industries in the world. IT, more than any other industry or economic facet, has an increased productivity, particularly in the developed world, and therefore is a key driver of global economic growth. Economics of scale and insatiable demand from both consumers and enterprises characterize this rapidly growing sector. The Information Technology Association of America explains ‘information technology’ as encompassing all possible aspects of information systems based on computers. Both software development and the hardware involved in the IT industry include everything from computer systems, to the design, implementation, study and development of IT and management systems. Owing to its easy accessibility and the wide range of IT products available, the demand for IT services has increased

substantially over the years. The IT sector has emerged as a major global source of both growth and employment.

### **2.2.5 Features of the IT Industry at a Glance**

Economies of scale for the information technology industry are high. The marginal cost of each unit of additional software or hardware is insignificant compared to the value addition that results from it.

## **2.3 Review of relevant research studies:**

### **2.3.1 An overview of ATM Usage fees**

ATM usage fees are the fees many banks and charge for the use of their "Automated Teller Machine". In some cases, these fees are assessed solely for non-members of the bank; in other cases, they apply to all users. Many people oppose these fees because ATM are actually less costly for banks than withdrawals from human tellers. Two types of consumer charges exist: the surcharge and the foreign fee. The surcharge fee may be imposed by the ATM owner the deployer or "Independent Sales Organization" and will be charged to the consumer using the machine. The foreign fee or transaction fee is a fee charged by the card issuer financial institution, stored value provider to the consumer for conducting a transaction outside of their network of machines in the case of a financial institution.

### **Australia**

On 3 March 2009 Direct Charging on Australia's ATM networks was introduced. The Reserve Bank of Australia says this reform will result in benefits to competition and efficiency in the Australian ATM system. Most banks, Common Wealth Bank CBA, "ANZ" and "Westpac" /St.George levy a \$2 "ATM service fee" for withdrawals and balance inquiries at their ATM by non-customers, "NAB" charges \$1.50 (50c for an enquiry), Suncorp \$2.20 (80c for an enquiry). Suncorp and BankWest sponsored independent deployers are charging fees from \$2, at these early stages \$2.20 and \$2.50 are not uncommon in pubs and clubs. Bendigo Bank charges its customers \$1.00 to use another bank's ATM. ANZ, Bank of Queensland,



BankWest, CBA, and Westpac/St.George do not charge any fee to use another bank's ATM. ING's Orange Everyday reimburses the ATM fee when a withdrawal of \$200AUD or more or if a person gets \$200 or more cash out via EFTPOS ING will pay you a 50 cent bonus each time.

### **Iran**

There is one ATM network in Iran, SHETAB. There were no charges in this network until fees were introduced in 2008. Transferring money between two accounts costs 5000 IR per transaction, and getting balance has a 1000 rial charge for other bank cards. Currently other services are charge-free.

### **Bangladesh**

There are multiple ATM networks in Bangladesh. The market leader, Dutch-Bangla Bank has the largest ATM network and it is also the network with the most member banks. Dutch-Bangla Bank customers are not charged for ATM transactions. Dutch-Bangla Bank has separate agreements with local and international banks where Dutch-Bangla Bank charges BDT 10 (USD \$ 0.14) per transaction to member banks. Due to this low amount, member banks often add an extra amount as a profit margin.

### **Canada**

A short description of the fee structure one experiences while using Canadian ATM can be found at the Interac. Before the presence of white label ATM in Canada , most Canadian customers were only charged the standard Interac Network Transaction Fee when a customer was using an ATM not provided by the bank that held their account historically \$0.75 Canadian dollar now \$1.50 CAD. As the Interac network was opened up to more ISO's and the potential for additional revenue from Service Fees were made available, most banks elected to impose the Service Fee in addition to the revenue that was generated from the Interac fee.

### **Neutral Consumer Information**

The Government of Canada maintains a chart of the fees typically charged for use of ATM in Canada. The chart is part of the "Financial Consumer Agency of Canada's Cost of Banking Guide.

### **European Union**

Rules are being introduced that will force banks to levy equal fees for customers of all banks in the European Union. This may mean national fees become higher. These rules apply since 2002-07-01. Eurozone and Swedish customers are exempt from getting lower international fees outside Eurozone countries, because only fees for euro withdrawals are regulated. Non-Eurozone customers except Swedish customers are completely exempt from getting lower international fees, because the regulation only states that international euro withdrawals should be available at the same price as national euro withdrawals and euro withdrawals are very uncommon in non-Eurozone customers' home countries.

### **Austria**

Cash withdrawals are free for any owner of an Austrian Maestro card.

### **Finland**

Cash withdrawals are free for any owner of an Finnish bank card or Visa Electron cards on ATM brand "Otto." which is the largest ATM network in Finland. There are smaller rivals which have fees. "Otto." ATM accept also Visa, MasterCard, American Express and Diners Club credit cards. They also belong to Maestro, Cirrus and PLUS networks. Fees depend on card issuer.

### **Germany**

German banks charge fees for withdrawals at another bank's ATM. Usual fees are 4-5 EUR. Most banks are part of interbank networks like "Cash Group" that unites five major German banks or "Cash Pool". Within one of these networks, customers can withdraw free of charge. Cash Group provides around 7,000 ATM, Cash Pool around

2,500. These networks have affiliates mostly in the cities but are rarely found in rural areas. The credit unions "Volksbanken" and "Raiffeisenbanken" provide around 18,000 ATM, very often in smaller towns and villages, but less frequently available in the big cities. The most extensive network of bank affiliates and of ATM belongs to the savings and loans associations "Sparkassen" with 24,600 ATM in Germany.

### **Ireland**

The "Financial Regulator" forbids all ATM usage fees in "Republic of Ireland".

### **Netherlands**

ATM withdrawals in the Netherlands are free. But you can only draw cash at another bank's ATM once a day, and there is a lower limit.

### **Portugal**

All "Multibanco withdrawals and payments in Portugal are free. Recent European Union directives allowed merchants and banks charge the costumers for transactions, but the government approved a law that forbids charging any kind of fees. Left Block and Portuguese "Communist Party" were the political parties that came up with the proposal and the ones more devoted with this idea.

### **Spain**

Banks that are not associated with the user's bank will usually charge a fee of €0.50 per withdrawal of cash from the machine. Other services such as top-up of mobile phones are usually free.

### **Sweden**

In Sweden, most banks issue debit cards for an annual or monthly fee which includes free withdrawals in Sweden and within the Euro zone. However, customers are typically subject to a fee if using a cash machine elsewhere. Some cards from some banks are, however, subject to fees also when used in the eurozone and some Swedish cash machines. Most of these cards are issued by savings banks.

### **United Kingdom**

Public reaction to proposed increases in fees was so strong in 1999 after a campaign launched by "National wide Building Society" and the UK Tabloid, Newspapers that fees were removed altogether for using ATM at banks, regardless of whether the user is a customer of that bank. However, each time a bank's customer uses a rival bank's ATM, the customer's bank has to pay a fee to the rival bank, which the customer's bank absorbs. There are a growing number of machines in locations such as garages, nightclubs and other venues which do charge transaction fees. The fee charged in 2005 was usually between GBP and 1.00 and £1.50, but occasionally they have been known to charge up to £5 and £10. Many other machines do not charge at all (e.g. cash machines owned & Operated by "Abbey National "). There has been some debate in recent years about the location of machines which charge in deprived areas, where the larger banks which would have provided free ATM have closed branches. Rules surrounding the requirement of ATM to display any fees incurred by the consumer were clarified in 2005.

### **Hong Kong**

There are three ATM networks in ETC (HSBC and "Hang Seng Bank" only), JETCO (all remaining banks) and AEON. . ATM use is free of charge, except when a card is used outside of its respective home network. When a card is used outside the home network, HKD\$30 is paid for service charge.

### **Switzerland**

The usual fee for a withdrawal at a "foreign" bank's ATM is CHF 2. All Swiss banks hand out Maestro cards to their customers, so that any ATM can be used.

### **United States**

Prior to 1988, there was no surcharging of cardholders by ATM owners in the U.S. In 1988 Valley Bank of Nevada began surcharging "foreign cardholders" (meaning holders of ATM cards not issued by Valley Bank) for withdrawals at Valley Bank ATM located in/near Las Vegas casinos. Eventually, various regional ATM

Networks, and ultimately the national networks, Plus and Cirrus, permitted ATM surcharging. Before 1996, foreign ATM fees averaged \$1.01 USD nationally, according to a 2001 report from the US-based State Public Interest Group Public Interest Research Group. As banks and third parties realized the profit potential they raised the fees. ATM fees now commonly reach \$2.00 (2003), and can be as high as \$6.00, or even higher in cash-intensive places like bars and casinos. In cases where fees are paid both to the bank (for using a "foreign" ATM) and the ATM owner (the so-called "surcharge") total withdrawal fees could potentially reach \$11. Independent sales organizations are the driving force in ATM deployment in the U.S. today representing over 60% of the 396,000 ATM nationwide. Some have expressed concerns that the U.S. market is becoming too saturated, spreading the resulting fee pool too thin, which may result in a future net decrease in the number of machines. Other media reports indicate that growth in ATM usage has decreased, possibly in relation to the amount of fees imposed by banks.

Only some fees charged by ATM are advertised at the point of transaction. This is more of a cautionary statement, as ATM are required by law to inform users of the surcharge fees that the machine will charge the user. This information may come in the push through menu or it may be on a sticker on the machine. However, the ATM card holder's own bank may charge a "foreign ATM network" fee to the card holder for using an ATM that is not owned and operated by the card holder's own bank. Since this charge is not assessed by the machine or the owner of the machine, it is usually not advertised at the time and place of the transaction. Thus, it becomes the responsibility of the card holder to be aware of the details of their own bank's fee structure, which may also vary from state to state, to determine the total cost of an ATM transaction. In addition, the "foreign ATM network" fee may be different if using an ATM outside the U.S. versus inside the U.S. A new charge that has come into the marketplace is the "Denial Fee", where a customer is charged a fee for attempting to withdraw more money than they are either allowed through their daily withdrawal limit or by having insufficient funds in their account. While many consumers are faced with multiple fees as described above, a number of standalone

and internet banks, such as USA and E- Trade Bank, , not only do not charge their customers for using another ATM but they also provide reimbursement, worldwide, of another ATM's fee. Thus, customers at some banks in the US can avoid ATM fees altogether. Another popular way to avoid paying ATM fees is to make a cash back purchase at a retail store: many retailers will allow a customer who is paying with a debit card to withdraw more than the total due the retailer and get back the difference in cash.

### **Sri Lanka**

In Sri Lanka banks usually charge a fee of LKR 50.00 (USD 0.40 to 0.60) per non user's bank withdrawal of cash from the machine.

### **Pakistan**

In Pakistan banks usually charge a fee of PKR 10 to PKR 35 (USD 0.15 to USD 0.40) per non user's ATM cash withdrawal. These fees are levied chiefly to offset banks' own costs at par only. There are two ATM switches operational in the country, hosted by a consortium of banks, and MNET, hosted by MCB Bank Ltd; and all Pakistani banks are members of one or the other switch as per the mandate of the State Bank of Pakistan, the country's central bank. Some banks, like Allied Bank and HSBC, absorb the costs entirely, and offer their customers totally free withdrawals at all ATM countrywide, including Azad Jammu and Kashmir; a territory between Pakistan and India whose status is disputed.

### **India**

Recently, the Reserve Bank of India, the country's central bank, has issued a directive to all commercial banks to abolish ATM service charges inter alia. With effect from 01 April 2009, customers of any licensed commercial bank can use the ATM of other banks without paying a reciprocal service charge. Earlier, banks used to charge between INR 10 and INR 35 per reciprocal transaction. However, banks can still charge extra for services such as credit card ATM cash advances and at foreign ATM. In addition, RBI imposes significant foreign exchange restrictions on the use

of Indian debit VISA/MasterCard abroad. For example, Indian debit VISA cards are routinely marked "Valid in India and Nepal only" due to the country's foreign exchange reserve policy. Again, recently the same directive was reverted to the earlier one which allowed banks to charge nominal fees for allowing customer's of other banks to use their ATM. (Sources: From Wikipedia, the free encyclopedia Website: [www.nepalartshop.com](http://www.nepalartshop.com) ).

### **2.3.2 Review of Journals and Articles:**

According to **Darius Dilijonas, Dalia Kriksciunien, Virgilijus Sakalauskas, Rimvydas Simutis**, on their article presents "The self-service systems quality management and evaluation framework". "The framework describes three groups of imperatives aimed to ensure sustainable service provision for self-service banking clients by increasing quality of the operational, resource and marketing services. As the outcome of the research, based on principal components analysis, they present three factors for evaluation operational service quality for automated teller machine network: ATM replenishment specifics, ATM service quality delivery and ATM service delivery structure".

"The quality issues of automated services in the banking context have increasing importance because of their potential influence on attractiveness, customer retention, profitability, positive word-of-mouth, and maximum competitive advantages. Contemporary business uses a lot of different quality improvement methodologies. Six Sigma, Lean, business processes improvement and re-engineering methodologies are considered to be the most popular and widespread. Although these methodologies provide tools for quality measurement and improvement at the operational level, their missing part is the systemic approach to organizational change and improvement including a readiness for change. Successful implementation of any change effort most likely requires a systemic, holistic understanding of organizations and their processes. The main drawback of these methodologies can be summarized as lack of process orientation. The services improvement methodology for automated teller machine network optimization is based on well known standards, such as BPMM.

This methodology is systemic and process oriented. Its main idea is based on implementation of artificial intelligence solution by setting up clear quality evaluation mechanism and then starting small scale projects to achieve major benefits with minimal risks and costs by improving organizational processes and quality of services delivery." (Sustainability Based Service Quality Approach for Automated Teller Machine Network, 2009)

**Mandell** discusses ATM adoption in the USA. The first ATM was installed in the USA in 1969 and, according to Mandell, only 10% of all national banks had adopted even one ATM after eight years. Mandell states that a bank's adoption of innovation depends eg on its size, branching status and competitive position. According to Mandell, in those days adoption of new technology was related more closely to competition than to cost savings. (Mandell, 1977)

**Saloner and Shepard** study empirically the adoption of ATM in the USA in 1972–1979. According to their results, ATM adoption delays are reduced as network effects increase. The authors use the number of branches as a proxy for network effects because, in the 1970s, most ATM were located in bank branches. However, today such a proxy would not be appropriate because many ATM are located outside of banking premises. Furthermore, the author's state that ATM is adopted the sooner, the greater the production scale economies. (Saloner and Shepard, 1995)

**Hannan and McDowell** examine how firms react to rivals' precedence in technology adoption process. The authors use data on the adoption of ATM by a large sample of US banking firms in 1971–1979. According to the study, rivals' adoption of ATM increases the conditional probability that the other firms will also adopt ATM. (Hanna and McDowell, 1987)

**Frame and White** survey in ATM diffusion studies in their article on empirical studies of financial innovation. The six studies summarized by Frame and White discuss initial adoption, or diffusion, of ATM technology. However, the demand for



ATM after the first phase of adoption has not been discussed very widely. (Frame and White, 2004)

**Hester** et al in 1999 study decisions on ATM in Italian banks. According to their results, the number of ATM is positively related example to the bank's number of branches and deposit accounts. There are studies on ATM pricing and fees. There are various fees related to ATM: An interchange fee is a fee that the customer's bank pays to the ATM owner when the customer uses another bank's ATM. A surcharge fee is paid by the cardholder to the ATM owner. A foreign fee is paid by the cardholder to his bank when using another bank's ATM. Hannan et al in 2003 analyze the pricing of ATM usage and surcharge levels in the USA. This empirical paper studies depository institutions' decisions on whether to have surcharges on non depositors using their ATM. The authors conclude that the probability of surcharging is positively related to the institution's share of ATM and negatively related to local ATM density. (Hester et al, 1999-2003)

**Salop** discusses the pricing decisions of shared ATM networks. He states that ATM networks should eliminate their pricing rules for interchange fees and that there should be price competition between ATM owners in order to increase the efficiency. (Salop, 1990)

**Matutes and Padilla** investigate shared ATM networks, banking competition and fees. The authors use a three-bank model to study the manner in which banks make their ATM networks compatible. They conclude that in equilibrium either a subset of banks will share ATM networks or there will be total incompatibility. This is a somewhat surprising result, since many national ATM networks seem to be compatible (eg ECB 2001). On the other hand, there have been changes in compatibility during the 1990s. The paper was published in 1994, when incompatibility was more typical than nowadays. (Matutes and Padilla, 1994)

According to **Matutes and Padilla** fully compatible networks are found in countries where the banking system is highly collusive, dominated by public banks, or competing in different geographical markets. Furthermore, Matutes and Padilla state that network fees enhance the likelihood of compatibility. (Matutes and Padilla, 1994)

**Massoud and Bernhardt** investigate theoretically the pricing of ATM services. According to their results, in equilibrium, banks charge nonmember users high ATM fees but do not charge their own customers for ATM usage. Own customers have to pay high bank account fees, and larger banks charge higher bank account fees and higher surcharges than smaller banks. The authors state that forcing banks to charge both members and non-members the same ATM fees leads to higher ATM prices and bank profits, and possibly to less consumer welfare. Massoud et al (2003) analyzed empirically ATM surcharges and customer relationships. They find that changes in ATM surcharges have a direct effect on bank profitability and an indirect effect via customer switching to use of other services provided by the bank. (Massoud and Bernhardt, 2002-2003)

**Croft and Spencer** analyze fees and surcharging in ATM networks. They develop a theoretical model and conclude that surcharging raises the customer's price above the joint profit-maximizing level for a shared network. Joint profits of the shared network are maximized by setting the interchange fee at marginal cost and not surcharging. Furthermore, large banks prefer lower interchange fees than do small banks. (Croft and Spencer, 2003)

**McAndrews and Rob** compare theoretically competition between two solely owned switches (ATM networks) and between one solely owned and one jointly owned switch. The authors study these two duopolies and differences in supplied quantities and profits, assuming the existence of network externalities in the ATM market. According to their results, the equilibrium profits of banks in the solely owned network are the same in both duopoly cases. On the other hand, the equilibrium

profits of banks in the jointly owned network are higher than the equilibrium profits of banks in the solely owned network in the case of one solely owned and one jointly owned network. In addition to the equilibrium profits from supplying ATM services to customers, banks in the jointly owned network receive part of the profits of the jointly owned network. Furthermore, the authors state that the network jointly owned by all banks produces the monopoly output, and consumers pay the monopoly price. They also discuss welfare implications and conclude that, because of network externalities and economies of scale, the monopoly may be a better structure in the end. (McAndrews and Rob, 1996)

**Carlton and Frankel** discuss the merger between two ATM networks in Chicago. These two networks, Cash Station and Money Network, were competitors until 1987. After the merger decision and a transition period, all ATM terminals of the new-combined network were available to all customers in early 1988. Carlton and Frankel state, on the basis of the statistics, that the growth in the number of ATM in the new network has been faster than average growth in the number of ATM in the USA. Furthermore, the volume of transactions increased even though the interchange fee of the new network was increased in 1991. Based on these arguments, the authors state that the merger of these two ATM networks benefited consumers. (Carlton and Frankel, 1995)

**Humphrey** studies possible cost savings and concludes that ATM have not reduced banks' costs. This may be the case because consumers use ATM services more intensively than services provided in bank branches. However, Humphrey et al get the opposite results. He analyze cost savings from ATM and electronic payments in 12 European countries in 1987–1999. According to the results, the ratio of operating costs of providing banking services to total assets has decreased considerably because of electronic payments and use of ATM. (Humphrey, 1994-2003)

**Humphrey and Vale** state that the shift to electronic-based payments leads to remarkable cost savings. They discuss cost savings from bank mergers. They use

Norwegian banking sector data and state that bank mergers in Norway have on average reduced costs. (Humphrey and Vale, 2004)

**Raa and Shestalova** analyze payment media costs with Dutch data and find that currency is cost-effective for small payments. Furthermore, their results suggest that debit cards or emoney are likely to replace cash usage for larger legal transactions. To conclude, various aspects of ATM have been analyzed in the literature. The earliest ATM papers concentrated on the adoption of ATM, and a significant part of the recent literature discussed the pricing and cost saving questions. However, the effects of monopolization in the ATM network market structure have attracted insufficient attention. Our analysis is aimed to fill this gap in the literature. (Raa and Shestalova, 2004)

**Mr. Wole Michael Olatokun in his article "The Adoption of Automatic Teller Machines in Nigeria: An Application of the Theory of Diffusion of Innovation"** Globally, Automatic Teller Machines (ATM) have been adopted and are still being adopted by banks. They offer considerable benefits to both banks and their depositors. The machines can enable depositors to withdraw cash at more convenient times and places than during banking hours at branches. In Material published as part of this publication, either on-line or in print, is copyrighted by the Informing Science Institute. In addition, by automating services that were previously completed manually, ATM reduce the costs of servicing some depositor demands. These potential benefits are multiplied when banks share their ATM, allowing depositors of other banks to access their accounts through a bank's ATM (McAndrews, 2003). Banks have become the principal deployers of ATM. Two reasons for this are that they want to increase their market share, although due to the prevalence of ATM, it is not likely to be the primary means by which ATM increase profitability for most banks; or/and above a certain level of operations, the cost of a single transaction performed at an ATM is potentially less than the cost of a transaction conducted from a teller, as ATM are capable of handling more transactions per unit of time than are tellers (Laderman, 1990). In Nigeria the deployment of ATM by banks and its use by

bank customers is just gaining ground and has burgeoned in recent times. This has happened especially after the recent consolidation of banks, which has in all probability, made it possible for more banks to afford to deploy ATM or at least become part of shared networks (Fasan, 2007). The increased deployment of ATM in the banking sector has made the issue of technology relevance important. ATM services have a history that is less than ten years in Nigeria. At first, they were operated as elitist services designed for those desirous of exclusive service. Cards were rare and the process for obtaining them tortuous. Presently, the use of ATM cards has been widely promoted. Banks no longer appear to want personal contact with their customers. Some banks have resorted to penalizing the customer as it were, for not possessing an ATM card, by debiting the account of such a customer for withdrawing below a certain amount across the counter. Agboola (2006) reported that although only a bank had an ATM in 1998, by 2004, fourteen of them had acquired the technology. Agboola (2006) discovered that the adoption of ICT in banks has produced largely positive outcomes such as improved customer services, more accurate records, ensuring convenience in business time, prompt and fair attention, and faster services etc. Also, the banks' image is improved creating a more competent market. Work has also been made easier, and more interesting, the competitive edge of banks, relationship with customers, and the solution of basic operational and planning problems has been improved. Fanawopo (2006) stated that Nigeria's debit card transactions rose by 93 per cent between January 2005 and March 2006 over previous years owing to aggressive roll out initiatives by Nigerian banks, powered by Interswitch network. The number of ATM transactions through the Interswitch network had increased from, 1,065,972 in 2004, to 14, 448, 615 between January 2005 to March 2006. This is a rise of 92.6 percent with respect to the previous years. More than 800 ATM have been deployed on the network, while about 2 million cards have been issued by 23 banks as at March 2006. A recent survey conducted by Intermerc Consulting Limited revealed that ATM services provided by banks and non-financial institutions stood as the most popular e-business platform in Nigeria (Intermerc Consulting Limited, 2007). The report showed that awareness for various banking services rendered by Nigerian banks is mostly limited

to the traditional banking services. Findings showed that 99 percent of the respondents were aware of savings accounts, while 92 percent were aware of current accounts and 72 percent are aware of local money transfer services. However, among the more modern banking services such as electronic banking, Internet banking, Point of Sales (PoS) transactions, money transfer, ATM emerged as the most popular with 96 percent awareness level. ATM awareness also ranked higher than awareness level about current accounts and slightly below savings account (Omankhanlen, 2007). In order to encourage customers to embrace the technology and overcome their fears of putting their checks into a machine's slot rather than a teller's hand, banks originally did not charge customers any fees for using ATM. In time, some banks started charging customers for not using ATM, through so-called "human teller fees"- a charge for each time a customer uses a teller for a service that could be performed by an ATM. Banks that embraced the ATM profited handsomely, often growing far faster. At first, a bank's ATM could only be used by customers who already had current or savings accounts with that bank, through the bank's proprietary ATM network (Ugwu, 2008). According to Merton (1992), the primary function of a financial system is to facilitate the allocation and deployment of economic resources, both spatially and across time, in an uncertain environment. This conception would also apply to financial innovations such as ATM and highlights the view that a financial innovation represents something new that reduces costs, reduces risks, or provides an improved product/service/instrument that better satisfies participants' demands (Frame & White, 2002). This burgeoning of ATM in Nigeria calls for a study on its diffusion that would give insight into issues such as, how far it might go; if it is being adequately adopted by users; if it is necessary at all; and what could be done, if need be, to improve on its use in the country. Frame and White (2002) emphasized the need for studies on financial innovation to aid research and assist financial regulators, since hypotheses advanced by the broad descriptive literature on innovation remain largely untested. Reportedly, a lot of the testing of hypotheses involving innovation has come from individuals trained in the economic aspect of industrial organization. The data and research environments have not been conducive to empirical work on financial innovation (Frame & White, 2002).

In Nigeria, it appears that both reasons are valid because the banks with more ATM appear to be more current, visible and likely to deliver better services on time, which might influence an adopter's decision to use an ATM; besides this, the stiff competition among banks trying to carve niches in the stock market, alongside the large size of potential customer patronage (as a result of the large population of the country) makes ATM adoption for banks crucial. At present in Nigeria, there is a fostering of shared networks. Shared networks are used probably because they increase the convenience of ATM use by enabling a given bank's customers to carry out banking transactions over a wider geographic area than would be possible with a proprietary network. Also, it is not necessary for a bank to own an ATM in order to belong to a shared network. Through spreading the fixed cost associated with ATM over transactions initiated by customers of many different banks, a shared network can take advantage of economies of scale (Laderman, 1990). Hence, there is clearly a need to study the issue of adoption of ATM Nigerian context, especially from the perspective of information science. This is because the diffusion of the innovation of automatic teller machines can be specifically perceived through the attitudes and actions of users.

The Diffusion of Innovation Theory, used in this study, attempted to examine the factors that influenced an individual to adopt an innovation. The theory proposed five focal beliefs or constructs that influence the adoption of any innovation. These are relative advantage, complexity, compatibility, trialability, and observability. Relative advantage indicates the usefulness of an innovation; compatibility is the degree to which an innovation is perceived as consistent with existing values, past experiences, and the needs of the potential adopter; complexity is the degree to which an innovation is perceived as relatively difficult to understand and use; trialability is trying out or testing an innovation so that it makes meaning to the adopter; and observability is the degree to which the results of an innovation are visible to others (Rogers, 1995). The essence of the use of these constructs is to empirically test part of DOI's attributes with a view to exploring factors that brought about the adoption of the innovation (automatic teller machines). An innovation in this study is taken to

mean an idea, practice, or object that is perceived to be new by a person or adopting entity.

In Nigeria, Automatic Teller Machine technology is becoming more common than it ever was. ATM appears to be mainly provided by banks in Nigeria (Fasan, 2007). Yet, their widespread adoption by customers of banks is not clear, as it appears that peoples' perception of the technology is diverse, which in turn affects their decision to actually use ATM or not. ATM are set up to provide 24 hour services to bank customers, who cannot expect to be able to transact with banks in the same period of time (Ugwu, 2008). Nevertheless, it is observed that banks still have many customers transacting with tellers within their doors, and queues are still not a thing of the past inside banks. The patronage of ATM is also not well defined, and even epileptic at best, as sometimes long queues were observed outside ATM, while at other times, there are few or no customers. It is consequently, important to discover why this is so, because as a technology, ATM are supposed to make life easier and more efficient for the customers of banks. Concerning banks, ATM ought to assist in improving a banks' turnover (Batiz-Lazo & Barrie, 2005). Therefore, low patronage of ATM by their customers could affect the banks' profit adversely. Therefore, there is a need to study the constructs that could affect the adoption of Automatic Teller Machines. Using a popular and widely used theory such as the theory of diffusion of innovation, it is expected from this study that the extent of diffusion of ATM will be determinable with a view to knowing what could be done to prevent the inhibition surrounding its use. Thus, it could be reasoned that the benefits of ATM can only accrue to adopters in Nigeria when barriers to their diffusion and adoption are identified. The DOI theory was used in an attempt to model the use of ATM in Nigeria, so that the progression of its use could be anticipated and fully catered for by banks. Although the application of the theory had been tested in previous studies there is a need for it to be applied locally using a recently introduced technology, such as ATM in Nigeria. The use of the theory is vital as there is a requirement for more information that could add to existing research. Furthermore, there appears to be a dearth of information concerning diffusion studies on ATM in Nigeria using the



DOI model. Accordingly, this could reveal areas that require further research, and provide answers to hitherto obscure questions concerning ATM adoption and diffusion. (Source: Issues in Informing Science and Information Technology Volume 6, 2009)

**Muhammad Asif Khan in his research "An Empirical Study of Automated Teller Machine Service Quality and Customer Satisfaction in Pakistani Banks"**

The country has witnessed a rapid growth in the introduction and diffusion of Information and telecommunication technologies in its banking sector. The promulgation of Electronic Transaction Ordinance in 2002 ushered a new era in the use of electronic medium and revolutionized almost all the paradigm of business activities. The State Bank of Pakistan is facilitating ecommerce activities in the country. Presently, all financial institutions are using this method. However, banks in particular are vigorously pursuing different channels available for e-banking. The banks are aggressively promoting issue and use of ATM cards, credit cards, debit cards, and smart cards. In Pakistan, SBP introduced ATM facility in 1999. It has witnessed a phenomenal increase. For example, the number of ATM increased from a mere 206 in 2000, to more than 3999 in 2009 in the country. Similarly, the number of ATM transactions has grown from 3.6 million in 2000 to more than 25 million in the same period. Further, the value of ATM transactions rose from Rupees 21.507 billion in 2000 to more than 189 billion in 2009. Likewise, the number of ATM cards in circulation increased from 0.24 million in 2000 to over 0.881 million in 2009 (SBP, 2009). Currently, the ATM facilities in Pakistan are generally used for cash withdrawal, payment of utility and credit cards bills, balance inquiry, change of personal identification number and transfer of funds facility. The main purpose of this study was to identify the significant dimensions that shape customers' perception of ATM service quality and the effect of ATM service quality on customers' satisfaction in Pakistani banking sector. The present study presented and examined a model to explain how convenience, efficient operation, security and privacy, reliability, and responsiveness positively and significantly affect customers' perception of ATM service quality, and how the ATM service quality influences the

customers' satisfaction. The foremost issue focused in the study was what ATM customers perceive as the essential dimensions of ATM service quality provided by their banks. The analysis of the literature discovered five key ATM service quality factors: convenience; efficient operation, security and privacy, reliability, and responsiveness. These quality dimensions share many common facets of those quality determinants originated within the context of traditional service industries by earlier research (Parasuraman et al., 1988). Alternatively, these dimensions have their distinct attributes inherent in automated service quality environment (Al-Hiwari et al., 2006; Rotchababkitumnuai & Speece, 2003).

The convenience dimension refers to ease of use and accessibility of the service at all times. The customers prefer flexibility to meet their financial needs at all times, which affect their perception of the ATM service quality (Gerrard & Cunningham, 2003). Lio and Cheung (2002) found that accessibility positively determines perception of quality of service. Lockett and Litter (1997) and Moutinho and Goode (1995) established that time utility is a major contributor of customers' perception of ATM service quality. Numerous studies indicated that the location of service of delivery mode is a strong driver of customers' perception of ATM service quality (Aldlaigan & Buttle, 2002; Almosawi, 2001; Levesque & McDougall, 1996) The second dimension of ATM service quality, efficient operation, relates to efficient and speedy operation of ATM. Efficiency in operations optimizes the resources for the customers. Customer accord priority to user-friendliness of ATM. White & Nteli (2004) found that efficient and faster delivery has positive effect on customers' perception of quality. Dilijonas et al., (2009) argued that minimum breakdown of machines constitutes essential aspect of ATM service quality. Al-Hawari (2006) argued that efficient ATM functions positively affect customers' perception of service quality. The dimension of security and privacy refers to perceived low-risk with use of ATM. The security environment in Pakistan and the frequent vulnerabilities of ATM users have enhanced the risk associated with the use of this delivery channel. Yoo and Donthu (2001), and Szymanski and Hise (2000) empirically found that customers' perception of security and privacy played an

essential role in their satisfaction. Lio and Cheung (2002) argued that expectation of security is essential in shaping customers' perception of service quality. The concern of customers about security and privacy, while using this service, is a major cause of their dissatisfaction (Madu & Madu, 2002). The feature of reliability describes accurate and promised service at all times. ATM users want to receive the right quantity and right quality of service at all times, as promised by the banks. In addition, they prefer accurate billing of their accounts. Wan et al., (2005) discovered that the accuracy of transactions' information was a major predictor shaping customers' perception of ATM service quality. Tan et al., (2003) found that this aspect positively and significantly contributes toward customers' perception of quality. The literature provides strong support that reliability is an essential determinant of customers' perceived service quality and positively relates to customers' use of ATM services (Fassnacht & Koese, 2006; Polatoglu & Ekin, 2001). The responsiveness aspect of ATM service quality relates to the ability of the bank staff to provide the agreed services timely, accurately, dependably, and promptly. Customers prefer to resolve their complaints expeditiously (Karjaluoto et al., 2002). Gerrard and Cunningham (2003) found that staff response to customers' ATM related needs influence their perception about service quality. Prior studies indicate that responsiveness is crucial to sustain service quality and facilitates building long-term relationship between service provider and the customers (Bauer et al., 2006; Long & McMellon, 2004). The research results reflect a positive and statistically strong relationship between ATM service quality and customers satisfaction. This association concurs with the findings of prior studies in ATM service quality context (Komal & Singh, 2009; Mobarek, 2009; Srijumpa et al., 2002; Wan et al.2005).

The rapid increase in number of automated delivery channels and customers' preference to use ATM because of multifaceted attributes are placing pressure on banks to respond aggressively to meet the customers' needs. The study provides necessary input to the bank management to increase customers' satisfaction through improving ATM service quality. The focus should not be on ATM service quality

dimensions only. This aspect should be augmented and integrated with other aspects of the service quality of banks for satisfaction of customers. Despite extensive use of ATM, the absence of direct interaction with bank staff has increased customers' apprehensions about the perceived risk (Grabner-Krauter & Kalusha, 2003). To reduce the customers concerns about perceived risk because of security and privacy concerns, the bank should improve the quality of interaction with the customers to alleviate these apprehensions with a view to improve ATM service quality (Merrilees, 2002). To further improve the service quality, ATM service should be able to provide enhanced interactivity, diversified offerings, and facilitate customers to participate in improving the service encounter with ATM and make it a memorable and pleasant experience. The banks should focus not only on the satisfaction of ATM users, but also aim at delighting them to ensure their retention. Banks should capitalize on the spread of communication technology and the theory of innovations (Marshall & Heslop, 1988). Banks should develop strategies to motivate non- users through awareness, education, extending personalized services, and demonstrating the functions of ATM. It is evident that convenience, efficient operation, security and privacy, reliability and responsiveness are not the only characteristics that influence customers' satisfaction. The other factors that contribute to customer satisfaction include trust, value, and image of the bank, (Ranaweera & Prabhu, 2003). Bank management should monitor the environment and identify the trends through marketing intelligence. They need to constantly up-date and differentiate their ATM service quality dimensions to ensure continuous satisfaction and retention of customers, and optimize their limited resources. Quick response to customers' needs and queries about the ATM related services are important to improve the service standards of ATM. This would facilitate customers to participate in improvement of service quality, learn and perform, and have a pleasant experience through two-way communication. Bank should make a commitment to redress the service failures of ATM. Solomon et al., (1985) argued that role players should provide compatibility between expectation and perception during service encounter. (European Journal of Social Sciences – Volume 13, Number 3 2010)

**Paper Published by Anita Campion and Sahra Halpern title "AUTOMATING MICROFINANCE"** (Experience in Latin America, Asia and Africa) Banco ADEMI is one of the largest microfinance institutions in the Latin America and among the most profitable banks in the Dominican Republic. At the end of December 2000, Banco ADEMI had assets of over \$6.4 million, 16,408 borrowers and a loan portfolio of \$53.3 million with 1.3 percent portfolio at risk (over 60 days past due).<sup>9</sup> The bank attributes its success to a solid lending methodology, a strong social commitment to serving micro and small business owners in urban areas, and the willingness to continually adjust and improve operations. To remain dynamic and competitive, Banco ADEMI has embraced change through the use of technology and automation.

Prior to its transformation from a non-profit organization, Banco ADEMI began to demonstrate its commitment to technology as a means to improve its customers' access to financial services. As an NGO, ADEMI negotiated with a traditional bank to offer its customers a credit card product. Once it obtained a bank license in 1998, Banco ADEMI was able to offer its own plastic payment system, the ADEMI+ debit card. While Banco ADEMI's investment in technology has not yet resulted in significant additional income, its employees and customers have expressed acceptance and appreciation of the technologies. Banco ADEMI is positioned to see additional benefits in terms of lower transaction costs and increased efficiency now that the majority of its customers have debit cards and can use them at automatic teller machines. The key feature of Banco ADEMI's product is that it allows customers to make repayments via ATM or through direct deduction from customers' savings accounts. In conjunction with BancoPopular, the NGO ADEMI offered a credit card product to its customers from 1996 to 1998. Affiliated with MasterCard, the credit card allowed customers to withdraw cash at 45 BancoPopular branches and 60 ATM, to pay electricity and utility bills and to make purchases from vendors within the Dominican Republic. ADEMI's primary motive to offer credit cards was to raise the social status of micro entrepreneurs in the Dominican Republic and to "democratize credit." By making credit cards widely accessible to low-income entrepreneurs,

ADEMI raised the central bank's awareness of the importance of microfinance to the general economy and helped to renew its customers' trust in the banking system after the 1990 banking crisis in the Dominican Republic. To qualify for the MasterCard, ADEMI's customers were required to have monthly incomes of approximately \$220, have borrowed at least \$220 from ADEMI and have maintained a satisfactory repayment history.<sup>11</sup> The average initial credit line was between \$110 and \$145.<sup>12</sup> BancoPopular charged its standard credit card rate, which ranged from 5 to 7 percent per month over the two years the product was promoted. In addition, customers paid an annual fee of \$18. ADEMI marketed the MasterCard product and Banc Popular was responsible for the operational aspects. Because Banc Popular lacked the knowledge to evaluate microenterprises, ADEMI loan officers performed the initial review of credit card applications. However, Banc Popular was ultimately responsible for final approval and bore all the credit risk related to the credit card product. Since few of ADEMI's customers had previously used a credit card, ADEMI staff had to educate customers about the concept and use. According to José Guzmán, Vice President of Operations at Banco ADEMI, "Credit cards can be dangerous, because it gives people the illusion of having more money than they really have or that they can afford more than they can, which can lead to over-indebtedness." Due to the partnering with BancoPopular, the only direct cost to ADEMI was employee time spent promoting the product and evaluating credit card applications. In exchange for its role in marketing, BancoPopular paid ADEMI 25 percent of all interest earnings and 25 percent of the annual fees. While this arrangement did not result in significant earnings to ADEMI, it covered related costs. Two years after ADEMI ceased promoting the MasterCard; it continues to receive income from the remaining credit card operations. Currently, the NGO ADEMI receives about \$12,000 a year in revenue from the MasterCard, and it dedicates the money to social work. Since the NGO's primary motivation to offer this product was to extend customer access to a financial product previously unavailable to them, the credit card was a success. Introduced on a wide scale from day one, ADEMI issued over 3,000 credit cards within a few months. While some customers complained about the low initial credit line, most were grateful to have an internationally

recognized credit card that was widely accepted throughout the country. Customers reported that having a credit card facilitated their purchases and strengthened their business credibility. In addition to the financial rewards, BancoPopular benefited because the partnership allowed it to use the ADEMI name and reputation to reach a new clientele. During the two years that ADEMI promoted the credit card, there was no evidence that it was losing business to BancoPopular. And, since ADEMI was involved in the credit card application process, loan officers were aware of their customers' additional indebtedness and could factor that information into the regular loan decision process. In this way, ADEMI protected itself and its customers from over-indebtedness. While partnering with BancoPopular caused ADEMI to forego control of the operational aspects of the MasterCard product, the relationship gave ADEMI a chance to learn about the issues involved with offering credit cards. Once it had the legal authority, the newly transformed Banco ADEMI built on this knowledge and began to offer its own plastic payment system. In 1998, when ADEMI transformed into Banco ADEMI, it ceased promoting the BancoPopular MasterCard product. Although, as a regulated financial institution, Banco ADEMI could offer its own credit card, it instead introduced a different, more versatile product with the same technology. In June 1998, Banco ADEMI received license to offer its debit card, ADEMI+. A debit card is like a credit card in the sense that it can be used to get cash or to make purchases. However, the cash used in debit card transactions is withdrawn directly from the customer's savings account, and therefore the balance does not represent debt. The primary objective of the debit card is to improve customer satisfaction and increase access to products and services that are available to other bank customers in the Dominican Republic. In addition, Banco ADEMI saw the debit card technology as a vehicle for facilitating loan repayments and for developing its savings portfolio. Another long-term benefit may be reduced transactions costs as customers use the ATM more and require less time with a human teller. Banco ADEMI launched the debit card in conjunction with a new loan product, "Préstamo con ahorro" (loan with savings). When a customer applies for a loan up to RD\$200,000 (or \$12,500),<sup>13</sup> she agrees to deposit 10 percent of the loan value into a Banco ADEMI savings account and to allow the bank to automatically

withdraw future loan payments from that account. In exchange for this agreement, Banco ADEMI authorizes loan amounts 10 percent higher than it would otherwise authorize. The additional loan funds are then placed in savings at the time of the loan disbursement. These funds are not specified as a loan guaranty because the customer can withdraw them at any time. However, the customer must keep the savings account open throughout the loan cycle, which implies maintaining sufficient funds to cover loan payments and a minimum balance of RD\$100 (or \$6.25). Upon opening the savings account, Banco ADEMI issues a debit card to the customer that she can use to make deposits to or withdrawals from the account from any automatic teller machine (ATM) in the “A Toda Hora” (ATH) network. ATH is a private company, dedicated to the administration and transmission of electronic data through automatic teller machines in the Dominican Republic. Affiliated cardholders can use the ATM in the network to make cash withdrawals and to check their account balances (debit cards), as well as to get cash advances and to check their remaining creditline (credit cards). Currently, twelve banks independently own the ATM in the system, and they select their machines’ locations. ATH facilitates the electronic and inter-bank transactions. While Banco ADEMI is in the process of installing one ATM machine in its largest branch office, it currently has no functioning ATM at its branches. However, ADEMI+ cardholders can use any of the 750 ATM in the ATH network throughout the country. Radio and television advertisements for the network are an important benefit that ATH provides its affiliates; often, the advertisements mention the names of the affiliates, which provides additional publicity. ATH has also visited a Banco ADEMI branch and offered refreshments to promote the network. Banco ADEMI does not pay a per transaction fee to the banks or the ATH network. Instead, its customers pay RD\$5.15 (US\$0.32) per ATM withdrawal. Of this amount, RD\$2.65 goes to the bank that owns the ATM where the transaction occurs and the rest goes to ATH for managing the system. Banco ADEMI currently receives no income when its customers use ATM belonging to other banks in the network, although it could potentially raise the cost of the transaction and retain the difference as a profit. Banco ADEMI’s strategy is to wait until customers are adjusted to the cards and have experienced the benefits before adding any more charges. The ATH



network provides customers 24-hour access to their accounts more efficiently than if Banco ADEMI had bought ATM for each of its own branches, considering the high cost of ATM. Banco ADEMI paid \$30,500 (including shipping and taxes) for the one ATM that it owns. Because the objective of installing this ATM was to learn more about ATM operations and to heighten its image as a full service bank, Banco ADEMI did not conduct a feasibility study prior to purchasing the machine. Instead, it simply selected the branch with the most customers and the highest number of monthly transactions. This ATM should be functional sometime in early 2001. Expected revenue has not yet been forecast. (The Micro Finance Network Occasional Paper No. 5, 2001)

**"A Framework for Evaluating the Effectiveness of Information Systems at Jordan Banks" An Empirical Study by Dr. Ahmad Mashhour and Zakaria;**

Although IS expenditure is regarded costly and risky financial institutions are one of the largest investors in IS (Robson, 1997). The past 25 years have witnessed vast reductions in the cost of information technology. Between 1995 and 2005, the computing power of the average PC increased tremendously, while the price declined. The introduction of telecommunications into bank markets dates to 1846 when the telegraph reduced stock price differentials between New York and regional stock markets (Garbade and Silber, 1978). At the same time, a revolution in telecommunications reduced the cost of transmitting data by a high margin since 1990. Such cost reductions have made it less expensive to acquire, store, transmit, and transform data into information. They have also created enormous changes in the services of the financial institution. The characteristic provision of financial services in retail markets was to change with the commercial use of computer power. For commercial banking worldwide, these advances in IT have resulted in dramatic productivity gains. One early example was the introduction of the automatic teller machine (ATM), which first appeared in the United States in 1968. The introduction of ATM made the distribution of some banking services more efficient. IT has developed the competition between financial institutions. Many new banking innovative strategies emerged from a new or enhanced banking information systems,

which include e-banking, smartcard system or enhancement of other payment card system. ATM, for instance, has many applications such as withdrawing funds, account inquiries, and transferring funds between accounts. All require face-to-face interaction between the customer and a bank teller. The bank's costs for these transactions included wages of tellers and back-office personnel, the cost of maintaining the premises, and other related expenses. ATM automated this process and, to the extent that they were simply substituting a machine for a bank teller, costs per transaction fell significantly. So, in this complex environment, how can information technology investments create value for the financial services organizations? According to Read et al (2001, page 97) "At its simplest level, value is created by generating revenues from the delivery of products and services to customers that exceed the cost of the delivery process". In essence, the impact of information technology on value creation in any organization can happen either through increasing revenues at marginal cost, or through reducing costs at marginal changes in revenue, and thus enhancing operating profits. An interesting finding of Morton (1991) supported by Hitt & Brynjolfsson (1996) and by Hayward et al (2002), is that benefits from IT do in fact exist, but are not captured by the organization. Several frameworks have been proposed to guide the choice among IS evaluation methodologies (Stone, 90). These frames include defining objectives and measures, considering qualitative effects from IS, and considering and integrating differing evaluative viewpoints (Hamilton and Chervany, 1981). Akoka (1981) uses the Gorry and Scott-Morton (1972) framework for MIS as a contingency model for choosing among evaluation methodologies. He proposed that structured operational control problems should be evaluated using cost-benefit analysis, while unstructured strategic planning problems should be evaluated using anecdotal reports and managerial assessment of system value. Allen et al (2006) pointed out that efficiency is measured in three ways: performance ratio, economy of scale, and cost efficiency, and according to Pehlivan & Kirkpatrick (1990), functional (operational) efficiency in financial institutions is measured by the cost and profit margins.

According to Gupta and Collins (1997), there are four popular efficiency measures used to assess IS return, which are as follows:

- reduced operating expenses,
- increased profitability,
- increased fee income as percentage of total revenues,
- Increased net-interest margin to average earning assets.

In spite of the disagreement among researchers on the assumptions and evaluation Factors of IS, the following factors represent the common factors to evaluate of financial information systems performance.

(a) IT integrated in IS: information technology is important to understand the relationship between information technology investment and firm productivity. Mitra and Chaya (1996) found that IT investments reduce average production costs, and increase average overhead costs in firms. Alpar and Kim (1990) reported that investments in information technology decrease total costs in the banking industry. Harris and Katz (1991) found that higher information technology spending is associated with lower growth in operating cost of insurance companies. Morison and Brendt (1990), found, from government data, that technology provides only marginal returns and concluded that there was overinvestment in IT.

(b) Software quality: Software quality can be utilized by meeting user needs, reusability of code and ease of expandability, and number of programming errors. Quality software products are essential in a highly competitive technology arena. ISO 9001 have been established by ISACA (information Systems Auditing & Control Association) organization as general guidelines for software quality. In measuring software quality specific characteristics of a system are typically addressed. These characteristics seem to focus

on software engineering aspects of software development which ultimately affect customer satisfaction.

(c) Investment in training: Arthur (1993) defines three types of quality costs: failure or fault cost, appraisal costs (cost of inspecting and testing software prior to the release of software) and prevention costs (cost of training, and continuous quality improvement). According to a survey conducted by (Gupta and Collins, 1997) banks are reluctant to invest in training; they reported that Florida banks showed less than \$50 per thousand investments in information systems training in 5 years time, which is considered very low amount of investment.

(d) Aligning corporate goals with technological investments: Companies should ensure that investment in technology is aligned with achieving strategic, tactical and operational goals. According to (Gupta and Collins, 1997), banks strongly agreed that information systems plays a valuable role in helping them achieve overall organizational goals.

(e) Customer services: Common monitoring service measurements include:

- The throughput - number of jobs completed in a given period.
- Response time - the time requirement for completion of a job.
- Reliability - the percentage of time the application is available.

(f) Productivity: information systems managers and consultants consider evaluating and understanding information systems productivity a key management issue. Many surveys were presented to assess and improve information systems productivity. Information systems productivity was ranked one of the most important issues among others (Dickson et al., 1983) and (Brancheau and Wetherbe, 1987).

(g) User satisfaction: The dominant Research focus on information systems evaluation over the passed two decades has been the development of survey instruments for the measurements of user satisfaction by proposing perceptual and quantitative measures of user satisfaction which is administered through retrospective survey instruments. Among the more popular instruments are those developed by

Bailey and Pearson (1988), Ives and Feeny (1990), Ivis and Olson (1983), and Baroudi (1983), and Davis (1989).

(h) Cost-benefit analysis: Cost-Benefit analysis (information systems return) by reducing operating expenses and increased profitability. A variety of models have been proposed to quantify the cost and benefits of information systems (Alpar and Kim, 1989), and (Emery, 1982). Some expands the use of quantitative variables to include nonmonetary measures such as timesaving due to improved workflow (Kauffman and Kriebel, 1990). In Jordan, IS are taking greater role in bank operations and decision performance, and have the potential to change the business process. (Journal of Internet Banking and Commerce, April 2008, vol. 13, no.1 <http://www.arraydev.com>)

**"Prospects and Challenges of E-banking in Nepal" an article by "Amrit Banstola"** Financial Institutions is slowly moving from Brick and Mortar (Physical branches) to click and Brick (E-banking). ATM's are the most popular electronic delivery channel for banking services in Nepal. Only few customers are using internet banking facilities. Nepalese financial institutions till date have not faced any kind of electronic fraud or risk. Banks have basic security tools like firewall, lightening/power surge protection. But it is found that the some banks are in lack of having regular back up of website information and E-banking policy. Nepalese banks are using E-banking for their own convenience and for the purpose of retaining exiting customers. The cost analysis of most of the banks in Nepal is seems to be either inadequate or not applied due to their narrow space of business transaction or lack of sufficient tools. No significant correlation was found between use of E-banking and gender, marital status or salary of customer. However, Use of E-banking signification association was found with age and education. Across the globe, but specifically in Nepal, current trend in private banking has been the consumer movement from traditional branch banking to more stand-alone banking. In other words, a move towards using e-delivery channels such as the Internet, telephone and mobile phones. Many banks are beginning to deliver credit and deposit products

electronically. As banks venture into the electronic arena, however, they are finding new opportunities with new operational and strategic risks. Nepal's journey into the world of information technology began some three decades back with the use of IBM 1401 for the population census, 1971. Royal Nepal Academy for Science and Technology (RONAST), for the first time, used the internet. Mercantile Private Limited started email services for commercial purposes in June 1994. (Yadav, 2004)

### **Major Milestones - Electronic Banking Aspect**

- ) Evolution of Joint Venture Bank in Nepal (NABIL Bank) in 1984.
- ) Introduction of Credit Cards in 1990.
- ) Establishment of first ISP in 1994 (Mercantile Office Systems).
- ) First ATM launched by HBL Limited in 1995.
- ) Tele-banking facility was introduced in 1997 by HBL Limited.
- ) Formulation of IT Policy in 2000.
- ) Evolution of Private Sector Bank (Kumari Bank) in Nepal in 2001.
- ) Internet-Banking was first introduced by Kumari Bank in 2002.
- ) SMS-Banking (Mobile Banking) was launched by Kumari Bank in 2004.
- ) Electronic Transaction and Digital Signature Act (revised in 2005, yet to be brought in practice).

Banking industry of Nepal has been taking rapid strides in the advancement of technology and aggressive infusion of information technology in the functioning of the banks. The industry has not only kept pace with technological developments but has also forced the computer industry to continuously keep pace and innovate products to suit its needs. Banks are using information technology to gain competitive advantage. (Mahat, 2004)

There is not abundant research on implications of E-banking by Nepalese financial institutions. The paper, which is focused on analyzing the prospects and challenges of ebanking, would be helpful and useful to those financial intermediaries who are

conducting and who want to conduct E-banking. The paper also sheds light on the current scenario of E-banking in Nepal.

## **The Theory**

### **Benefits from the Bank's Point of View:**

According to a survey by Booz, Allen and Hamilton, an estimated cost providing the routine business of a full service branch in USA is \$1.07 per transaction, as compared to 54 cents for telephone banking, 27 cents for ATM (Automatic Teller Machine) banking and 1.5 cents for Internet banking (Nathan 1999; Pyunet al., 2002). In Nordea Bank, Finland, one online transaction costs the bank an average of just 11 cents, compared to \$1 for a transaction in the branch (Echikson, 2001). Average payment in Internet bank or via direct debit cost 4 times less, than payment in branch. On actual cost side (or cost side from the bank point of view), average direct debit payment cost 16 times less and payment in Internet bank 7 times less, than payment in branch.

### **Benefits from the Customers' Point of View:**

The main benefit from the bank customers' point of view is significant saving of time by the automation of banking services processing and introduction of an easy maintenance tools for managing customer's money. The main advantages of E-banking for corporate customers are as: Reduced costs in accessing and using the banking services, increased comfort and timesaving - transactions can be made 24 hours a day without requiring the physical interaction with the bank, quick and continuous access to information and corporations will have easier access to information as, they can check on multiple accounts at the click of a button, better cash management. (BankAway! 2001; Gur\_u, 2002)

### **Economic Benefits:**

The impact of the New Economy on the entire economic growth has been studied in several research projects. For example Pohjola (2002) shows, that the contribution of the use of information communication technology to growth of output in the Finnish

market sector has increased from 0.3 percentage points in early 1990s to 0.7 points in late 1990s. Similarly, research conducted in Estonia (Aarma and Vensel, 2001), bank customers use bank office services on average 1.235 times per month, and wait in queue in bank office on average for 0.134 hours. Simple calculation shows, that making payments via E-banking facilities (for instance using Internet bank) rather than in the bank offices create overall economy savings in the amount of 0.93% of GDP (Average distance to nearest bank office is 4.14 km (Aarma and Vensel, 2001), which takes approximately 0.21 hours to travel.

### **Electronic and Telecommunication Infrastructure**

Computer hardware, software, data and information management, telecommunication and network infrastructure, the internet, intranet and extranets etc. are the vital part of E-banking technology. E-bank utilizes XML that provides output in different formats (HTML, WML, PDF etc.), thus making the banking services available through PC's, WAP phones, PalmTops and other handheld devices.

### **E-banking Risk and Management**

E-banking has unique characteristics that may increase an institution's overall risk profile and the level of risks associated with traditional financial services, particularly strategic, operational, legal, and reputation risks. Banks as well as consumers view the security threat as perhaps the most serious threat; it is observed that the security of internet access to client account is the biggest challenge facing banks.

### **Personal Characteristics and Demographics**

Previous research has found out that demographic characteristic such as education, age, and incomes are significantly associated with the usage rates of technological innovations (Dickerson and Gentry, 1983; Zeithaml and Gilly, 1987). Dickerson and Gentry (1983) showed that adopters of personal computers tend to be middle-aged, with higher income, and highly educated. The decisions to adopt technology by men are mainly determined by the perceived usefulness of technology use, whereas women, in contrast, are more influenced by their perceptions about a system's ease of



use and social influences (Venkatesh and Morris, 2000). Income and education levels are especially relevant in explaining the use of Internet services and other technological devices. Additionally to income, gender, age, and education effects, there is also evidence of ethnic differences in Internet use (Katz and Aspden, 1997).

### **E-commerce Consumer Behavior Model**

The e-commerce consumer behavior model developed by Turban, Rainer and Potter (2003) stimulate a consumer to think about buying. Then, two types of factors influence the buying decision making process, individuals (personal) factors and environmental factors. In electronic commerce there are additional factors that influence shoppers' decision making- payments, delivery, web designs, use of intelligent agents and customer service.

### **Electronic Delivery Channels Utilized by Commercial Banks**

ATM's are undoubtedly the most popular electronic delivery channel for banking services in Nepal. In regards to Mobile banking and Internet banking, though the banks are clearly making the necessary efforts to provide these services, they have not penetrated the market in a big way as yet. Moreover, the research show that Tele-banking is also in practice where as PC banking service is not available.

**(Sources: The Journal of Nepalese Business Studies)**

**"Prospects and Challenges of E-banking in Nepal" an article by "Amrit Banstola"** Advances in information technology and telecommunications have certainly introduced new delivery channels for Nepalese commercial banks' products and services. These new delivery channels include automated teller machines (ATM's), mobile banking, Internet banking. Among these, the ATM's are the most widely accepted and highly utilized delivery channel. As per the information provided by banks, mobile banking seems to have good future prospects. PC banking is still not available in Nepal. However, about 35% of the respondents have Internet access at home and work and these represents a positive indication for PC-based banking and Internet banking in the future. At present, the strategies of the Nepalese

banks tend to retain the existing customer through E-banking. E-banking adopters use the basic banking facilities such as cash receive and withdraw, balance enquiry, regular and schedule payment. Only few percentages use other facilities such as inter-account fund transfer, online purchasing. This is basically because of the security and confidentiality concern of the customers regarding these facilities of E-banking. Risk management, infrastructure development and policy formulation the three major challenges of E-banking in Nepal. Technological problems like connect break in service while withdrawing cash from ATM, poor mobile service are creating obstacles in development of E-banking in Nepal. An adequate level of infrastructure and human capacity building are required before banks adopt the full-fledged E-banking. In Nepal, E-banking is at its infancy right now and the system is not perfectly secure. However, no e-banking frauds have been found yet. Lack of understanding of internet technology may be the reason. But, precaution must be taken. Telecommunications industry and financial services sector are crucial components for E-banking. Nepal Telecom and now Mero mobile are two telecommunication industries which are operating their business throughout the county. But, the services are limited and the problems are more. The signification association found between age, education with use of E-banking means E-banking providers should target the younger age group as well as well educated persons. The cost analysis of most of the banks is seems to be either in ad-equate or not applied due to their narrow space of business transaction or lack of sufficient tools. This poor awareness in cost analysis of banking transaction may lead to loss in future in the field of E-banking. To be able to draw conclusions about profitability, some investigation into the income side has to be made as well. **(Sources: The Journal of Nepalese Business Studies pg 103-4)**

### **2.3.3 Review of Thesis**

Heli Snellman (2006) on his thesis entitled “**Automated Teller Machine network market structure and cash usage**” has tried to reveal the following conclusion

- ) This study analyzed the effects of ATM network market structure on the number of ATM and cash usage. The influence of cash distribution technology and changes in it are of the essence for central banks, as seignior age is based on cash usage. At the same time, the development of retail payments and the usage of payment instruments
- ) are relevant questions for many other parties, such as banks and consumers.
- ) He argued that the dependence between ATM network market structure and the number of ATM has not been thoroughly analyzed. Furthermore, based on the earlier literature, the effects of ATM on cash in circulation are ambiguous.
- ) He theoretically analyzed the influence of ATM network market structure on the number of ATM and on the demand for money. Both the consumer's and the bank's optimizations problems were analyzed in order to determine the optimal number of ATM and the optimal value of cash holdings.
- ) In addition to the theoretical analysis, he tested empirically the hypotheses formed based on the theoretical discussion. A unique data set on 20 countries used in estimations was combined from various data sources. We estimated the ATM and cash equations using various estimation methods, all of which produced results quite similar to those of our research questions. The estimation results support the hypothesis that a reduction in the number of ATM networks decreases the number of ATM. In other words, the monopolization of ATM network market structure leads to a lower service level. This is in line with our theoretical discussion and with the industrial organization literature.
- ) Furthermore, his estimation results indicate that the influence of the number of ATM on cash in circulation and seignior age is somewhat ambiguous but more likely negative than positive. Also, based both on our theoretical discussion and on the earlier empirical work, the effect of the number of

ATM on cash usage seems to be somewhat contradictory. In addition to these main results, the relationship between deposit interest rate and cash in circulation is negative and statistically significant in all our estimations, as expected based on the earlier literature. Lack of data often restricts empirical research on payment systems. The development of payment systems has been very rapid over the past few decades and, for example, the first ATM were installed in the 1960s or 1970s in many of the countries analyzed in this study. However, harmonized data on various countries have been available only since 1988 or 1990, which leads to a short observation period. Also, the euro conversion in 2002 affected cash in circulation in the euro countries. Especially during the year 2001, cash in circulation decreased considerably in these 12 countries. Moreover, the value of euros in circulation has not been available for individual euro countries since 2002, as only the total value of euros in circulation has been published.

The major policy discussion made by the researcher is as follows:

- J The monopolization of ATM networks leads to a decreased number of ATM may have various policy implications. On the one hand, decreasing competition may have harmful consequences from the consumers' point of view. The availability of ATM services may diminish if the monopoly decides to reduce the number of ATM. Furthermore, it may be easier for a monopoly ATM service provider to increase the fees for cash withdrawals. There are some countries in which cash withdrawals are free of charge. In such cases, the monopoly ATM service provider may have incentives to start charging a fee for cash withdrawals. On the other hand, maintaining many parallel ATM networks is expensive. At least in a small, sparsely inhabited country this cost may be substantial. The main question is who pays the expenses of cash maintenance.
  
- J Concerning cash usage, the role of the central bank is of the essence. The maintenance of currency is one of the responsibilities of central banks. Cash

is the only legal tender, and central banks have a monopoly in issuing currency in circulation. They have to ascertain the sufficiency of cash. As the seigniorage of central banks is based on cash usage, changes and developments in payment systems and especially in cash usage are of importance to them. Furthermore, central banks should promote the efficiency of payment systems. Payment instruments are part of the overall payment system, and cash usage seems to be quite an inefficient payment instrument compared. to electronic payment methods. However, efficiency in this context should be regarded as social efficiency, the analysis of which has not been the object of this paper. Furthermore, cash is the only anonymous payment instrument. Even if the legal transactions demand for cash decreases considerably or ceases totally, cash may still be demanded eg for grey or black economy transactions. Moreover, some cash is used for precautionary or speculative purposes, and some currency may be used outside the country or currency area.

) An important aspect of maintenance of cash supply is to decide on the distribution of notes to people who prefer cash payments. All citizens should have access to cash distributing services. For instance, in Finland, the major part of cash is withdrawn at ATM. However, ATM networks are not maintained by central banks but typically by banks or by separate bank-owned companies. Cash maintenance generates costs to banks, and so, they may have incentives to reduce cash usage. One efficient way to do this is to reduce the number of ATM or to start pricing cash withdrawal services. Banks have already encouraged their customers to increase the use of electronic means of payment via price incentives. Both the number of payment cards and the value and volume of card payments have been increasing during the last ten or fifteen years. Banks may also have incentives to reduce the number of bank branches or at least to concentrate on customer services other than routine ones like cash withdrawals.

J The countries discussed in this paper have different payment systems. Some have more highly developed payment systems than others, eg the use of cheque versus payment cards varies considerably across countries. The observation period 1988–2003 is short, and payment systems in various countries are developing all the time. It is interesting to consider whether this development will lead to homogeneous payment systems in all countries. For instance, there is a Single Euro Payment Area (SEPA) project in the euro area, having many common goals for payment systems development in the EU countries (eg Koskenkylä 2004, ch. 6). To achieve the goals of SEPA, all parties need to enhance the development of the payment systems and co-operate with each other. The development of the payment sector challenges both the market side and the authorities. Cash usage and ATM network market structure may change as the payment system sector develops. It would be interesting to replicate this study after 20 years to test whether the main results remain the same.

Santoh Raj Janwali, (2007) in his thesis **Credit Card Practices in Nepal**, explain and explore about credit card. The main objective of this research work is to analyze the general impact of ATM's on consumer behavior. However, the specific objectives of the study are outlined at next page:

- J To examine the consumers preferences on ATM's.
- J To examine the popularity of the ATM's marketing.
- J To analysis the effectiveness of the marketing of ATM's.
- J To examine the factors that influence to choice of ATM's.

Marketing presents the most persuasive possible selling message to the right prospects for the product or service at the lowest possible cost. The Nepalese ATM industry has seen explosive growth in recent times. ATM represents the single largest investment in the electronic channel services for the banks. The ATM has become a common sight in many of our city. ATM has gained prominence as a delivery channel for banking transaction in Nepal. Bank have been deploying ATM to

increase their reach while ATM facilitate a variety of banking transactions for customer their main utility has been for cash withdrawal and balance inquiry. In today's world, the popularity of Interconnectivity of ATM is increasing day by day. Marketing is widely used by business, government and social organization. Banks extensively use it to issue notices for repayment of overdue loans. However the impact of marketing to the various consumers is unknown. The Automated Teller Machine (ATM) is one type of innovation that can mechanically accept deposits, issue withdrawals, transfer funds between accounts, collect bills, and make small loans. The ATM of a bank are connected to the accounting platform of the bank through ATM switches. Inter-bank ATM networks are created by setting up apex level switches to communicate between the ATM switches of different banks. The inter-bank ATM networks facilitate the use of ATM cards of one bank at the ATM(s) of other banks for basic services like cash withdrawal and balance enquiry. Banks owning the ATM charge a fee for providing the ATM facility to the customers of other banks. The ATM deploying bank from the card issuing banks recovers this fee referred to as 'interchange fee'. However the interchange fee is not fixed across banks and depends on the terms of bilateral / multilateral arrangements. Thus the study to analysis effect of IT marketing product in Nepal.

#### Conclusion and Recommendations

On the basis of the findings of the study, following suggestions or recommendations are recommended:

- J The study shows that majority of respondents of different age groups and various educational backgrounds prefer ATM's occasionally rather than regular. So, it is recommended to make awareness about the ATM in the market through different means of marketing.
- J The study shows that majority of the respondents use ATM's facility occasionally and it is more popular with men consumers. So, the suppliers and manufacturer should give preference to the ATM's for withdrawing money and other facilities by focusing more to the women as well as men consumers.

- J The analysis shows that the information included in marketing are not sufficient and majority of the respondents are willing to get the additional information from the advertisement regarding the various aspects of the product. Thus, advertise manufactures and suppliers should include sufficient information so that consumer can be satisfied regarding the matters.
- J The study indicate that the marketing of any product leaves the good impact with consumer behavior regarding the product but to some extent their purchase decision is depends upon the need of the consumers also so while advertising the product all suppliers and advertiser should try to create the necessity of the product through effective presentation of product and product related information in advertisement.
- J The advertisement of ATM's product is very much effective to leave a positive impact upon consumer regarding the product and majority of the respondents prefer the quality of the product rather than other variables. So, all suppliers of ATM's product should produce a product having good quality and advertise their product effectively which helps to increase their market share rapidly.
- J In the study majority of the respondents stated that the cost of the using ATM's is comparatively higher than other means of withdrawing money. So, the suppliers of ATM's should remove this weakness and the cost of the product should be comparatively reasonable as other means.

Sabina Dangol, (2008) in her dissertation **Debit card market in Nepal special reference to Nepal Investment Bank Ltd.** The main objective of this study is to examine and explore the Debit card market in Nepal. The specific objectives of the study are as follows;

- J To identify the problems of card business.
- J To evaluate the growth rate of card business.
- J To analysis the trend of card users in Nepal special reference of Nepal Investment Bank
- J To examine current use of debit card by Nepal Investment Bank Lid.



Financial and banking sector's growth depends upon reliable services provided by them. So, all financial institutions and banks have to provide special service to make transaction easy and fast. Previously bank provides only banking service but customer. Due to this reason credit card system was introduced. But in Nepal, Debit and Credit card concept has recently entered in banking sector and general public. Card business is still in the growing stage. Hence, the in-depth research on the potentiality of card business is the subject matter of thorough study and research in the present context. Therefore credit card is chosen as the subject matter for this research. Which helps different parties like, other student who want to know about debit card the bank who involved in card business to modify their card service and formulation of strategy for smooth operation of card and the government who has to make different policies for the regulating the business.

- ) The study indicates that most of the consumers prefer marketable product rather than not marketable product and it also indicate that marketing attract the attention of the consumer. Hence, all suppliers should advertise their product to expand the market share.
- ) The study will be limited to the study of performance of Nepal Investment Bank Ltd towards Debit and Credit card business in Nepal. Since, card is a new concept for Nepalese business and personal life and the in-depth study and research has yet to be done.
- ) In the study majority of the respondents stated that the cost of the using ATM's is comparatively higher than other means of withdrawing money. So, the suppliers of ATM's should remove this weakness and the cost of the product should be comparatively reasonable as other means.

Sultan Singh, Ms. Komal, (2009), "**Impact of ATM on Customer Satisfaction (A Comparative Study of SBI, ICICI & HDFC bank)**" has tried to reveal the following objectives:

) The paper aims to examine the scenario of ATM in three major banks. In this broader framework, an attempt is made to achieve the following specific objectives:

) To analyze the present ATM facilities provided by SBI, ICICI & HDFC Bank.

) To examine the factors affecting the choice of ATM.

) To examine the impact of ATM on customer satisfaction by appraising the problems faced by the customers.

) To analyze the post purchase behavior of customers regarding the different banks under study.

The conclusion made by the researchers is as follows:

It is concluded through this paper that material satisfaction level is highest in SBI, then second is ICICI Bank and third is HDFC Bank. This is due to the size of the respective bank and number of years of its establishment. But according to abstract 2009 Sultan Singh, Ms. Komal customer satisfaction i.e. in terms of efficiency and performance, HDFC Bank is at 1st position, 2nd is ICICI Bank and 3rd is SBI. The study shows depicts that material customer satisfaction level is highest for SBI at 79%, 2nd is ICICI Bank with 77% and 3rd is HDFC Bank with 73%. Table also presents that average customer satisfaction level is highest in HDFC bank with 70%, in ICICI Bank it is 60% and SBI is at third place with 55%. (Sources: 277-287 Business Intelligence Journal - August, 2009 Vol. 2 No. 2)

## **CHAPTER - III**

### **RESEARCH METHODOLOGY**

This part of the study deals the methods and techniques, which are used, in this study. This study is based on primary sources of data. Primary data are collected by taking interview to different peoples, newspapers, magazines, NCAT website, dissertations submitted in the institute of management etc.

#### **3.1 Research Design**

The research is mostly based on the primary data. Hence, survey research design has been used. In this study "IT Marketing in Nepal (A study on ATM product)" have been evaluated. The opinions of peoples about ATM users have been gathered.

#### **3.2 Population, Sample and Sources of Data**

The present study is of analytical and exploratory nature. Accordingly, the use has been made of primary as well as secondary data. The required data are collected through the questionnaire survey among the people of different age groups, gender, different education group etc. covering the consumer of urban area. Thus, the people of different age group, gender and education group are the population of the study and among them several questionnaire are filled up as a sample from the population. The questionnaires are filled up with the consumers selecting 100 people which are the main source of primary data. And other required information or data are collected from the ATM user (if possible official report), market survey and dissertation submitted to the institute of management etc.

#### **3.3 Sampling Procedure**

A stratified random sampling technique is used to collect the required data covering the people various ground (age group, educational background, gender etc.) who use the ATM for withdrawing amount.

### **3.4 Data Collection Techniques**

#### **Data Analysis**

Primary data has been collected through questionnaire. A sample size of 100 respondents has been taken. A personal visit has been made to these banks to know about the branches & ATM facilities provided by these banks.

### **3.5 Data Processing and Tabulation**

The consistency of the answer provided by the respondents was checked and tabulated according to the sample banks. Different sets of tables have been prepared for every important questionnaire. Simple listing method is used for the tabulation of data and different responses made by them are presented on percentage basis as well. The sample data collected covering the various backgrounds are presented in table below:

The situation of gender wise data collection is presented in table -3.1

If u want we can exceeds the no of male and female.

**Table-3.1**  
**Gender-wise Sample Collection**

| Description | Sample size |
|-------------|-------------|
| Male        | 50          |
| Female      | 50          |
| Total       | 100         |

Similarly, the data collected from covering the various educational backgrounds is presented in table-3.2

**Table-3.2**  
**Education- Wise Sample Collection**

| Description  | Sample size |
|--------------|-------------|
| PCL          | 20          |
| Graduate     | 20          |
| Master       | 20          |
| M-Phil /Ph.D | 20          |
| Uneducated   | 20          |
| Total        | 100         |

Likewise, the situation of age-wise sample collection from various age groups are presented in Table-3.3

**Table-3.3**  
**Age-Wise Sample Collection**

| Description | Sample size |
|-------------|-------------|
| Below 15    | 20          |
| 16-25       | 20          |
| 26-35       | 20          |
| 36-45       | 20          |
| Above 45    | 20          |
| Total       | 100         |

Similarly, the data collected from covering the martial status backgrounds is presented in table-3.4

**Table-3.4**  
**Marital Status Sample Collection**

| Description              | Sample size |
|--------------------------|-------------|
| Single                   | 33          |
| Married with no children | 33          |
| Married with children    | 34          |
| Total                    | 100         |

### **3.6 Analysis Techniques**

In order to accomplish the objective of the study various graphs, diagrams, including pie chart, have been applied for the purpose of analysis. The result of analysis has been properly tabulated, compared, analyzed and interpreted.

#### **Statistical tools**

To draw the conclusion by analyzing the collected data simple statistical tool like arithmetic mean, multiple bar diagram, pie-chart are used and tabulation are used to implicit the comparative results.

#### **Arithmetic mean average**

The central values that represent the characteristics of the whole distribution or the values around which all items of the distribution tend to concentrate are called average. Arithmetic mean or arithmetic average is one of the important statistical measures of average. The arithmetic mean of a given set of observation is their sum divided by the number of observations that is denoted by

#### **Multiple Bar- diagrams and graphs**

Diagrams and graphs are visual aids which give a bird's eye view of a set of numerical data which show the information in a way that enables us to make comparison between two or more than two sets of data. Diagrams are in different types. Out of these various types of diagram one of the most important form of

diagrammatic presentation of data is multiple bar diagram which is used in cases where multiple characteristics of the same set of data have to be presented and compared.

### **Pie- diagram**

A pie- diagram is a widely used aid that is generally used for diagrammatic presentation of the values differing widely in magnitude. In this method all the given data are converted into 360 degree as the angle of a circle is 360 degree and all components of the data are presented in terms of angles that total 360 degree for onset of data.

### **Percentage**

Percentage is one of the most useful tools for the comparison of two quantities or variables. Simply, the word percentage means per hundred. In other words, the fraction with 100 as its denominator is known as a percentage and the numerator of this fraction is known as rate of percent.

### **3.7 Limitations of the Study**

This research work is totally based on the analysis of primary sources of data. The major limitations of the study are as follows:

- ) The requirement of our syllabus of MBS, the study covers only the ATM Marketing in Nepal.
- ) The study is limited to a survey of respondents and interview of people within the urban areas of Kathmandu.
- ) Random sampling technique will be used to select the respondents for the purpose of interview.

**CHAPTER - IV**  
**PRESENTATION AND ANALYSIS OF DATA**

This part of the study contains the presentation and the analysis of based on Survey followed by their analysis. The main objective of this part is to analyze the view of different people regarding television advertisement. This part includes two sections. The first section includes the presentation and analysis of collected data where as the second section includes the major finding of the study.

**4.1 Frequency of ATM User according to Gender (Sex)**

The frequency of ATM User according to Gender (Sex) is presented in table below:

**Table 4.1**  
**Frequency of ATM User according to Gender (Sex)**

| <b>Description</b> | <b>Sample size</b> | <b>Regularly</b> | <b>%</b> | <b>Occasionally</b> | <b>%</b> | <b>Seldom</b> | <b>%</b> | <b>Almost never</b> | <b>%</b> |
|--------------------|--------------------|------------------|----------|---------------------|----------|---------------|----------|---------------------|----------|
| Male               | 50                 | 16               | 32       | 20                  | 40       | 3             | 6        | 11                  | 22       |
| Female             | 50                 | 6                | 12       | 22                  | 44       | 10            | 20       | 12                  | 24       |
| Total              | 100                | 22               | 22       | 42                  | 42       | 13            | 13       | 23                  | 23       |

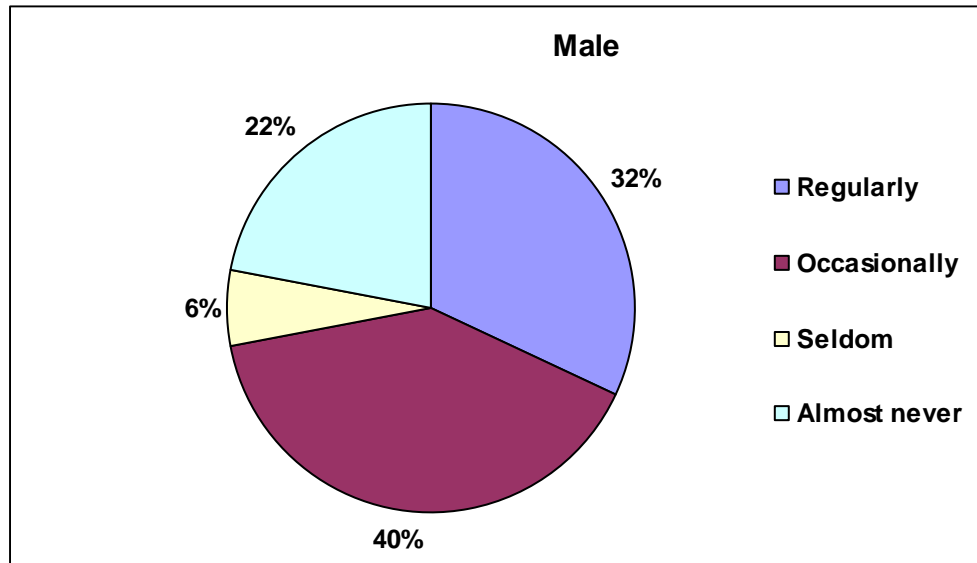
Source: Field survey- 2009

The above table shows the frequency of ATM's User according to gender. Out of 50 male, 32 % respondent are found to be regularly, 40% of respondent preferred to be occasionally, 6 % of respondent preferred to be seldom and 22 % respondent to be almost never using ATM's. Regarding female 12 % respondent are found to be regularly, 44% of respondent preferred to be occasionally, 20 % of respondent preferred to be seldom and 24 % respondent to be almost never using ATM's.

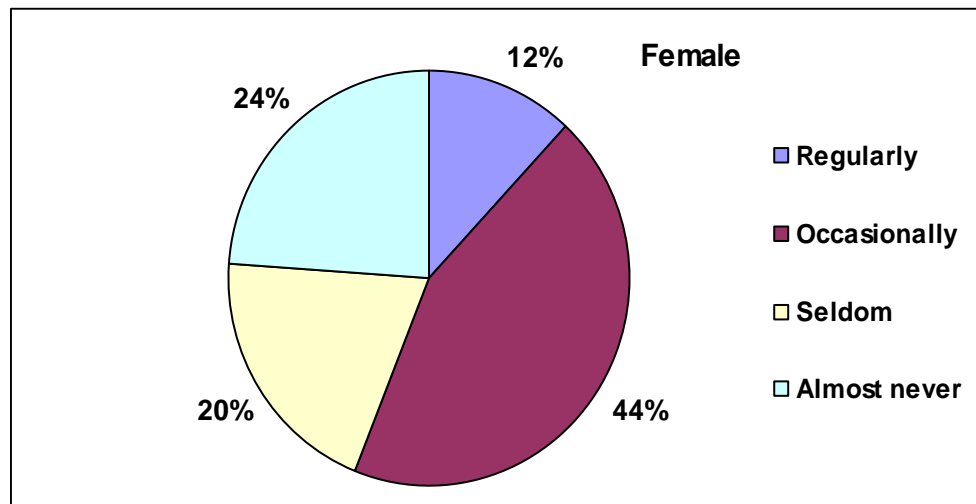
From the analysis it can be concluded that the male consumers seems to give more priority to ATM's and more regularly than female. Altogether, they preferred to be occasionally to use the ATM's facilities. For the more clarity the above information is presented with the help of the pie chart



**Figure 4.1**  
**Frequency of ATM User according to Gender (Male)**



**Figure 4.2**  
**Frequency of ATM User according to Gender (Female)**



**4.2 Age-wise consumer's Preference on ATM's**

The table below shows the age level and their ATM preference. The sample size of total people 100 and it is divided in to five groups of 20 responds in each group. The detail situation of response has been presented in table 4.2 below:

**Table 4.2**

**Age-wise consumer's Preference on ATM's**

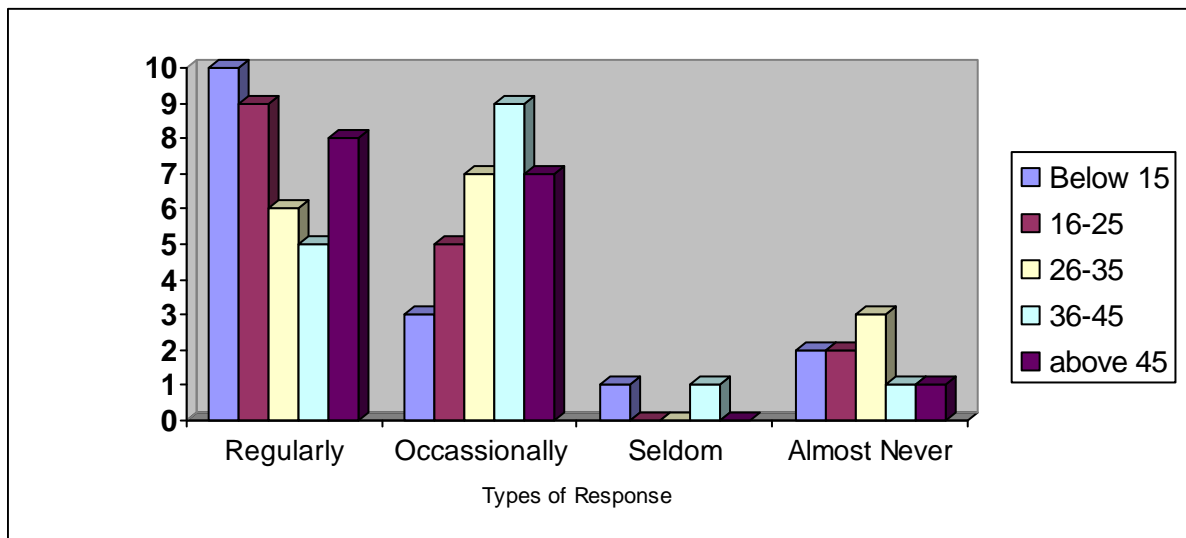
| <b>Description</b> | <b>Sample size</b> | <b>Regularly</b> | <b>%</b> | <b>Occasionally</b> | <b>%</b> | <b>Seldom</b> | <b>%</b> | <b>Almost never</b> | <b>%</b> |
|--------------------|--------------------|------------------|----------|---------------------|----------|---------------|----------|---------------------|----------|
| Below 15           | 20                 | 0                | 0        | 0                   | 0        | 10            | 50       | 10                  | 50       |
| 16-25              | 20                 | 5                | 25       | 10                  | 50       | 3             | 15       | 2                   | 10       |
| 26-35              | 20                 | 8                | 40       | 5                   | 25       | 4             | 20       | 3                   | 15       |
| 36-45              | 20                 | 5                | 25       | 9                   | 45       | 4             | 20       | 2                   | 10       |
| Above 45           | 20                 | 8                | 40       | 6                   | 30       | 3             | 15       | 3                   | 15       |
| Total              | 100                | 26               | 26       | 30                  | 30       | 24            | 24       | 20                  | 20       |

Source: Field survey- 2009

It was found that 50 % of People (i.e. below 15 years) seldom use ATM facility and rest of the people never use ATM facility where as no one of this age group use ATM's facility regularly and occasionally. The reaction of the people that fall in age group of 16-25 like this: 25% of people use ATM facility regularly, 50% of people use ATM facility occasionally and 15% of people use ATM facility seldom and 10% of the people almost never use ATM facility. Similarly the reaction of the people that fall in age group between 26-35, 40% of people use ATM facility regularly, 25% of people use ATM facility occasionally and 20% of people use ATM facility seldom and 15% of the people almost never use ATM facility. The reaction of the people that fall in age group of 36-45 like this: 25% of people use ATM facility regularly, 45% of people use ATM facility occasionally and 20% of people use ATM facility seldom and 10% of the people almost never use ATM facility. Similarly, it was found that 40 % of People (i.e. above 45 years) use ATM facility regularly, 30% of people use ATM facility occasionally and 15% of people use ATM facility seldom and 15% of the people almost never use ATM facility. This can be shown on multiple bars diagram as below:

**Figure 4.3**

**Age-wise consumer's Preference on ATM's**



**4.3 Literacy wise consumer's preference on the basis of literacy level of consumers is presented in under table 4.3**

**Table 4.3**

**Literacy-wise Consumers' Preference on ATM's**

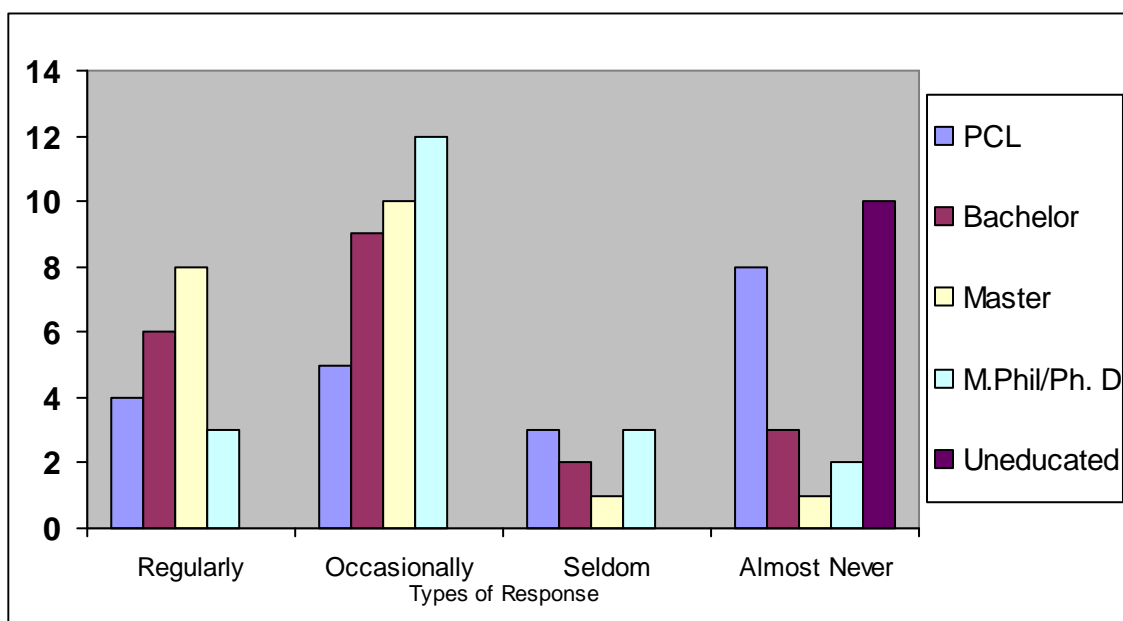
| Description | Sample size | Regularly | %  | Occasionally | %  | Seldom | %  | Almost never | %   |
|-------------|-------------|-----------|----|--------------|----|--------|----|--------------|-----|
| PCL         | 20          | 4         | 25 | 5            | 20 | 3      | 15 | 8            | 40  |
| Graduate    | 20          | 6         | 30 | 9            | 45 | 2      | 10 | 3            | 15  |
| Master      | 20          | 8         | 40 | 10           | 50 | 1      | 5  | 1            | 5   |
| M-Phil/Ph.D | 20          | 3         | 15 | 12           | 60 | 3      | 15 | 2            | 10  |
| Uneducated  | 20          | 0         | 0  | 0            | 0  | 0      | 0  | 20           | 100 |
| Total       | 100         | 22        | 22 | 35           | 35 | 9      | 9  | 34           | 34  |

Source: Field survey- 2009

The above table shows that lower educated responds preferred to ATM's, 20% of people regular preferred in PCL level and 25% of people preferred occasionally and 15% of people seldom preferred ATM's whereas 40% of PCL level people never

preferred ATM's. In the sample size of 20 people in Bachelor level, 30% of people preferred regular and 45% of people preferred occasionally and 15% of people seldom preferred ATM's whereas 15% of Bachelor level people never preferred ATM's. In Master Group of 40% people regular preferred ATM's and 50% of people preferred occasionally and 5% of people seldom preferred ATM's whereas 5% of Master level people never preferred. Similarly, In M- Phil/ Phd level of 15% people regular preferred ATM's and 60% of people preferred occasionally and 15% of people seldom preferred ATM's whereas 10% of M- Phil/ Phd Group level people never preferred. The above table shows that above frequency of using ATM's in all level is occasionally than others. However in case of uneducated people the frequency of Using ATM's is almost like never. To understand the above information easily and quickly it has been presented with the help of multiple bar diagrams.

**Figure 4.4**  
**Literacy-Wise Consumers' Preference on ATM's**



#### 4.4 Marital Status Consumer's Preference on ATM's

The table below presents the marital status preferences on ATM's.

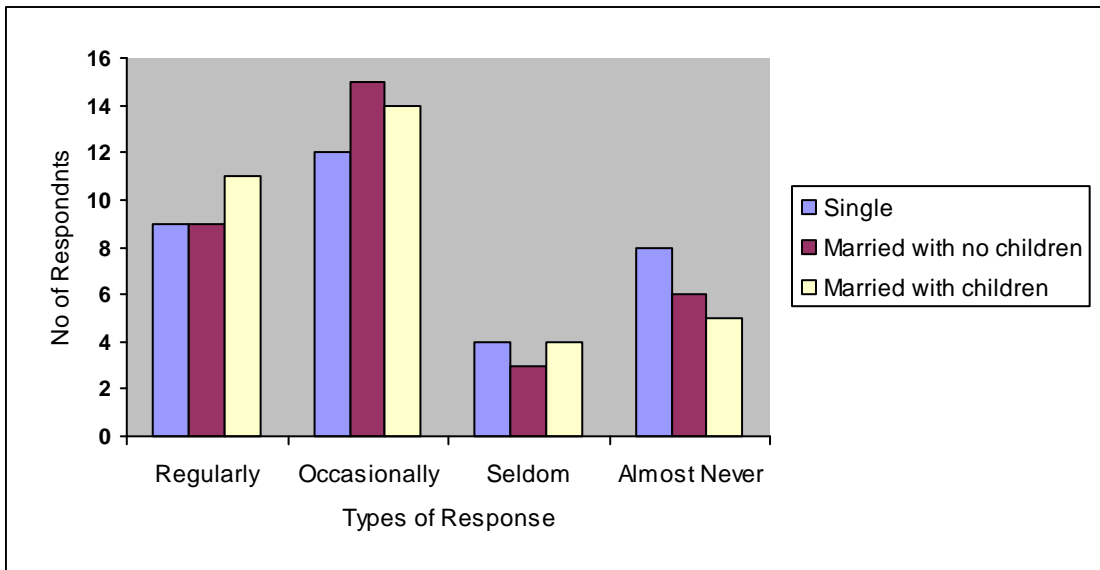
**Table: 4.4**  
**Marital Status Consumer's Preference on ATM's**

| <b>Description</b>       | <b>Sample size</b> | <b>Regularly</b> | <b>%</b> | <b>Occasionally</b> | <b>%</b> | <b>Seldom</b> | <b>%</b> | <b>Almost never</b> | <b>%</b> |
|--------------------------|--------------------|------------------|----------|---------------------|----------|---------------|----------|---------------------|----------|
| Single                   | 33                 | 9                | 27       | 12                  | 36       | 4             | 12       | 8                   | 25       |
| Married with no children | 33                 | 9                | 27       | 15                  | 45       | 3             | 10       | 6                   | 18       |
| Married with children    | 34                 | 11               | 32       | 14                  | 41       | 4             | 12       | 5                   | 15       |
| Total                    | 100                | 29               | 29       | 41                  | 41       | 11            | 11       | 19                  | 19       |

Source: Field survey- 2009

The above table presents the consumer preference on ATM's according to marital status of people. Out of total sample population of single people, 27 % people are found to use ATM's facility regularly, 36% of people found to be occasionally, 12% found to be seldom whereas 25% of people never use the ATM's facility. Similarly, out of total sample population of married people with no children, 27 % people are found to use ATM's facility regularly, 45% of people found to be occasionally, 10% found to be seldom whereas 18% of people never use the ATM's facility. Also, out of total sample population of married people with children, 32 % people are found to use ATM's facility regularly, 41% of people found to be occasionally, 12% found to be seldom whereas 14% of people never use the ATM's facility. The percentage of married people with children seems to be regular than others. The above statistics is presented below through multiple bar diagram.

**Figure 4.5**  
**Marital Status Consumer's Preference on ATM's**



#### 4.5 Effect of marketing on consumers' Preference Decisions

The consumer's buying decisions is depends upon various factors like marketing influences them to use new technology by introducing that product or that product was needed for them etc. The result of consumer's reactions on this regards is presented in the table below:

**Table 4.5**  
**Effect of Advertisement on Consumers' Preference Decisions**

| Description          | No. of respondents | Percentage |
|----------------------|--------------------|------------|
| Marketing induced to | 6                  | 6 %        |
| Needed               | 50                 | 50 %       |
| Both of them         | 44                 | 44 %       |
| Total                | 100                | 100.00     |

Source: Field survey- 2009

The above table shows that out of total respondents, 6% respondents were found to be the consumers of the product because they were influenced by the marketing, 50% responded that became consumer of the product because of their needs not due to the

effect of advertisement where as 44% consumers were found to support both of the reason. Thus from the above result, it can be concluded that majority of the respondents use the particular product to fulfil their needs.

**Table 4.6**  
**Consumers' Preferences to the Product**

| Description                  | No. of respondents | Percentage |
|------------------------------|--------------------|------------|
| Product frequently marketing | 82                 | 82%        |
| Product not market           | 18                 | 18%        |
| Total                        | 100                | 100%       |

Source: Field survey- 2009

The above figure shows clearly briefly the number of consumer's preference to the product. Out of the total 100 respondents, 82% respondents that they prefer the frequently advertised product whereas 18% respondents opined that they prefer to buy the product that is not advertised. From the above analysis it can be concluded that majority of the consumers give the priorities of preference to the frequently advertised product.

#### **4.6 Consumer's preferences to the means of Marketing**

Consumers prefer different types of means of marketing according to their needs, interests and priority. They are various types of means of marketing available in the market like newspapers, magazines, television, radio, Pamphlets, hoardings, flex etc. The situation of consumers' preferences to the various means of marketing is presented in the table below:

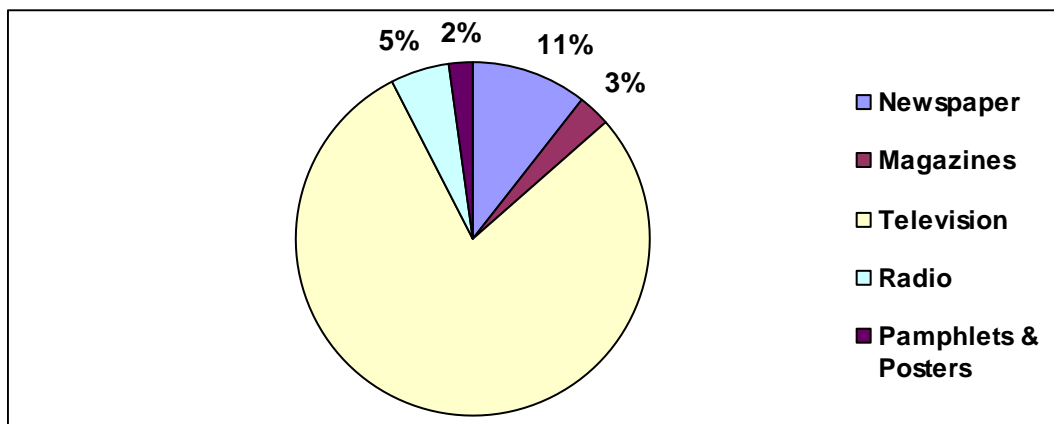
**Table 4.7**  
**Consumers' Preferences to the Means of Marketing**

| Description         | No. of respondents | Percentage |
|---------------------|--------------------|------------|
| Newspaper           | 10                 | 10 %       |
| Magazines           | 3                  | 3 %        |
| Television          | 75                 | 75 %       |
| Radio               | 5                  | 5 %        |
| Pamphlets & Posters | 2                  | 2 %        |
| Total               | 100                | 100 %      |

Source: Field survey- 2009

The above statistics presents the number of respondents preferring the means of Marketing. Out of the total 100 respondents, majority of respondent, 75% responded that they prefer newspapers, magazines, radio and pamphlets & posters by 10%, 3%, 5%, 2% respectively.

**Figure: 4.6**  
**Consumers' preferences to the means of Marketing**



From the above analysis it can be concluded that television marketing seems to be the most particular means or media which plays a critical role to enhance the market with new products.



#### **4.7 Consumers' response to the Adequacy of Marketing**

Consumers can receive various useful information regarding the products useful and benefits, using techniques and its effects on their daily life etc from the advertisement. The situation of consumers' response regarding the adequacy of the Marketing is presented below:

**Table 4.8**  
**Consumers' response to the adequacy of Marketing**

| <b>Description</b>              | <b>No. of respondents</b> | <b>Percentage</b> |
|---------------------------------|---------------------------|-------------------|
| Seek for additional information | 82                        | 82 %              |
| Adequate information            | 18                        | 18 %              |
| Total                           | 100                       | 100 %             |

Source: Field survey- 2009

The above table shows briefly the consumers' reaction to the adequacy of marketing. Among the total 100 respondents 82 % respondents wanted some more information to be added in the marketing whereas for 18 % responded that the contend the marketing were adequate i.e. They are fully satisfied with the information received from the marketing of particular product.

Therefore from the above analysis it can be concluded that majority of consumers seems willing to add additional information in the marketing so that the marketing would be adequate enough to accomplish the demand of the consumers.

#### **4.8 Impact of Marketing on Costumer**

Some Marketing creates positive impact among the consumers regarding the advertised product while sometimes it may fail for this. The result of survey on this regards are presented in table below:

**Table 4.9**  
**Impact of Marketing on Consumers**

| Description     | No. of respondents | Percentage |
|-----------------|--------------------|------------|
| Positive impact | 82                 | 82         |
| No impact       | 18                 | 18         |
| Total           | 100                | 100.00     |

Source: Field survey- 2009

The above table shows the impact of marketing on different consumers. Among the total respondents 82% respondents responded that marketing could leave good impact upon them about the advertised product whereas 18% respondents opined that marketing could not leave any impact upon them. It proved that the marketing has played important role to leave positive impact towards the majority of people.

#### **4.9 Role of Marketing to make the Use the product**

Sometimes marketing may play important role to introduce the product and influences for purchase whereas sometimes it may fail for this purpose. The result survey in this regards is presented in table below:

**Table 4.10**  
**Role of Marketing to make the Use the product**

| Description     | No. of respondents | Percentage |
|-----------------|--------------------|------------|
| Indifferent     | 83                 | 83 %       |
| Purchase        | 7                  | 7%         |
| Do not purchase | 10                 | 10%        |
| Total           | 100                | 100 %      |

Source: Field survey- 2009

The table 4.10 shows the role of marketing to attract the consumers. From the analysis it can be found that out of 100 respondents 83% respondents couldn't say whether they decide to use the product or not after they got some information through any means of marketing and a only a few percent of people ie, 7% opined that they will use the product after marketing however 10% respondents opinioned that they will not use. It proves that marketing helped to majority of consumer to recall the new technology facility to greater extent but the purchase decision is not fully depends upon the marketing.

#### **4.10 Effect of marketing of ATM product**

The marketing of different ATM product sometimes reaches to the target group while sometimes it may fails. The result of the effectiveness of the marketing of different ATM product is presented in table below:

**Table 4.11**  
**Effectiveness of the marketing of ATM's product**

| Description | No. of respondents | Percentage |
|-------------|--------------------|------------|
| Seen        | 100                | 100        |
| Not Seen    | 0                  | 0          |
| Total       | 100                | 100        |

Source: Field survey- 2009

Above table 4.16 shows the effectiveness of the marketing of ATM's product. From the analysis of the table it can be concluded that 100% of the respondents are familiar with the marketing of ATM's product which indicated that the marketing is the very much effect to introduce the product to the costumer.

#### **4.11 Factor influence to choice the Product (ATM's)**

Many factor influence to the customer to use the Product like ATM's. The results of the factors that affect the customers to customer to use the Product like ATM's are presented in table below:

**Table 4.12**  
**Factor influence to choose the Product (ATM's)**

| Description        | No. of respondents | Percentage |
|--------------------|--------------------|------------|
| Trust and security | 56                 | 56         |
| speed              | 16                 | 16         |
| Convenience in use | 8                  | 8          |
| Cost               | 8                  | 8          |
| Marketing          | 12                 | 12         |
| Total              | 100                | 100        |

Source: Field survey- 2009

The above table shows that the various factors which influence customer to bring into play the product. The factor like trust and security, speed, convenience in use, cost and marketing are the things which customer take cares before choosing the new product in use. From the table, majority of the respondents (56%) responded that they are influenced by the trust and security of in adopting this product were as 16 %are influenced by speed whether it is time consuming than others alternative or not 8% percent are influenced from the cost for using the facilities the product and rest 12 percent are influenced from the marketing of the particular Product.

#### **4.12 Major Finding of the Study**

The major findings of the study derived from the analysis section are as follows:

1. In case of the preference of the marketing according to the gender majority of (40%) male respondent found to be occasionally and it is followed by 32% respondents who found to be regular, 22% and 6% of respondent found to be almost never and seldom. Regarding female respondents (44%) male respondent found to be occasionally and it is followed by 12% respondents who found to be regular, 24% and 20 % of respondent found to be almost never and seldom. From the analysis it can be concluded that the male consumers seems to give more

priority to ATM than female. Overall, the analysis shows that the frequency of ATM User by both genders is found to be higher occasionally.

2. The respondents (50%) below age level of 15 years seldom use ATM facility and rest of the people never use ATM facility .The reaction of the people that fall in age group of 16-25 majority of the people about 50% use ATM facility occasionally and 25%, 15% and 10% of the people use ATM facility regularly, seldom, almost never ATM's facility respectively. Similarly, the reaction of the people that fall in age group of 26-35, majority of the people about 40% use ATM facility regularly and 25% , 20% and 15% of the people use ATM facility occasionally, seldom, almost never use the ATM's facility respectively. Also, the reaction of the people that fall in age group of 36-45 majority of the people about 45% use ATM facility regularly and 25%, 20% and 15% of the people use ATM facility occasionally, seldom, almost never use the ATM's facility respectively. like this: 25% of people use ATM facility regularly, 45% of people use ATM facility occasionally and 20% of people use ATM facility seldom and 10% of the people almost never use ATM facility. Similarly, it was found that 40 % of People (i.e. above 45 years) use ATM facility regularly, 30% of people use ATM facility occasionally and 15% of people use ATM facility seldom and 15% of the people almost never use ATM facility.
  
3. In context to the education –wise preference to the marketing indicates most of the educated respondents preferred to ATM's where 20% of people regular preferred in PCL level and 25% of people preferred occasionally and 15% of people seldom preferred ATM's whereas 40% of PCL level people never preferred ATM's. In the sample size of 20 people in Bachelor level, 30% of people preferred regular and 45% of people preferred occasionally and 15% of people seldom preferred ATM's whereas 15% of Bachelor level people never preferred ATM's. In Master Group of 40% people regular preferred ATM's and 50% of people preferred occasionally and 5% of people seldom preferred ATM's whereas 5% of Master level people never preferred. Similarly, In M- Phil/ Phd

level of 15% people regular preferred ATM's and 60% of people preferred occasionally and 15% of people seldom preferred ATM's whereas 10% of M-Phil/ Phd Group level people never preferred. However in case of uneducated people the frequency of Using ATM's is almost like never.

4. In relation to consumer preference on ATM's according to marital status of people. Out of total sample population of single people, 27 % people are found to use ATM's facility regularly, 36% of people found to be occasionally, 12% found to be seldom whereas 25% of people never use the ATM's facility . Similarly, out of total sample population of married people with no children, 27 % people are found to use ATM's facility regularly, 45% of people found to be occasionally, 10% found to be seldom whereas 18% of people never use the ATM's facility. Also, out of total sample population of married people with children, 32 % people are found to use ATM's facility regularly , 41% of people found to be occasionally, 12% found to be seldom whereas 14% of people never use the ATM's facility The percentage of married people with children seems to be regular than others.
5. The result regarding the number of respondents preferring the means of Marketing out of the total 100 respondents, majority of respondent, 75% responded that they prefer newspapers, magazines, radio and pamphlets & posters by 10%, 3%, 5%, 2% respectively. From the analysis it can concluded that television marketing seems to be the most particular means or media which plays critical role to enhance the market of the product new to the market.
6. In relation to the consumers' reaction to the adequacy of advertisement 82 % respondents wanted some more information to be added in the marketing whereas for 18 % responded that the contend the marketing were adequate i.e. They are fully satisfied with the information received from the marketing of particular product.

7. With the respect to the impact of marketing on different consumers. Among the total respondents 82% respondents responded that marketing could leave good impact upon them about the advertised product whereas 18% respondents opined that marketing could not leave any impact upon them. It proved that the marketing has played important role to leave positive impact towards the majority of people.
8. In relation to the role of marketing to attract the consumers, it can be concluded that 83% respondents couldn't say whether they decide to use the product or not after they got some information through any means of marketing and a only a few percent of people i.e, 7% opined that they will use the product after marketing however 10% respondents opinioned that they will not use. It proves that marketing helped to majority of consumer to recall the new technology facility to greater extent but the purchase decision is not fully depends upon the marketing.
9. In relation to the effectiveness of the marketing of ATM's product. From the analysis of the table it can be concluded that 100% of the respondents are familiar with the marketing of ATM's product which indicated that the marketing is the very much effect to introduce the product to the costumer.
10. In relation to the various factor which influence customer to bring into play the product. The factor like trust and security, speed, convenience in use, cost and marketing are the things which customer take cares before choosing the new product in use. From the table, majority of the respondents 56% responded that they are influenced by the trust and security of in adopting this product were as 16 %are influenced by speed whether it is time consuming than others alternative or not 8% percent are influenced from the cost for using the facilities the product and rest 12 percent are influenced from the marketing of the particular Product.

## **CHAPTER - V**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Summary**

Marketing presents the most persuasive possible selling message to the right prospects for the product or service at the lowest possible cost. This is a professional definition, which emphasizes that marketing should be planned and created to achieve the most result for the least costs. The main objective of marketing is to sell. But unlike the salesman who sells in a face-to-face, or even voice to voice situation, advertising sells in a broadcast fashion to numbers of prospects whose identity may or may not be known, and who may be close at hand or at a distance. The message is reached to the large number of prospective buyers at a time. Marketing has remarkable flexibility and range of operation. This versatility and flexibility of the marketing does have to be used intelligently. This is lacking in Nepal. In this regard the present study will be helpful. Before there is any expenditure on marketing, there must first be an assessment of the likely return, and one method or medium should be judged against another on a cost benefit analysis. This study surveys the marketing of ATM product in Nepal on consumer behavior. Thus, this study will be very important for the company who sales product. It will help them to improve their marketing policy.

In Nepal, marketing is growing day by day. Marketing is widely used by business, government and social organization. Banks extensively use it to issue notices for repayment of overdue loans. However the impact of marketing to the various consumers is unknown. The Automated Teller Machine (ATM) is one type of innovation that can mechanically accept deposits, issue withdrawals, transfer funds between accounts, collect bills, and make small loans. The ATM of a bank are connected to the accounting platform of the bank through ATM switches. Inter-bank ATM networks are created by setting up apex level switches to communicate between the ATM switches of different banks. The inter-bank ATM networks



facilitate the use of ATM cards of one bank at the ATM(s) of other banks for basic services like cash withdrawal and balance enquiry. Banks owning the ATM charge a fee for providing the ATM facility to the customers of other banks. The ATM deploying bank from the card issuing banks recovers this fee referred to as 'interchange fee'. However the interchange fee is not fixed across banks and depends on the terms of bilateral / multilateral arrangements. Thus the study to analysis effect of IT marketing product in Nepal. The main objectives of the study is to analysis the impact of IT marketing in consumer behavior with reference to ATM's product but the specific objectives are (a) to examine the consumers preferences on ATM's.(b) to examine the consumers popularity of ATM's Marketing. (c) to analysis the effectiveness of the marketing of ATM's product (e) to examine the factors that influence to choice of ATM's product.

Marketing is one of the most important components to influence consumers for making them familiar about the product. The study regarding marketing of IT product in Nepal with reference to ATM product in consumers' behavior is perhaps in first in Nepal. To achieve the objectives of the study required data are collected from primary sources through questionnaire. In total several questionnaires covering the differing age groups, different gender, educational background and e.t.c., are collected and by using various statistical and mathematical tools are used to analysis the data to achieve the objectives of the study. Though the samples were selected on a convenience basis and it may not represent the whole population, but still it is no less important for manufacturer, suppliers as well as banker to consider the recommendations with due care for better customer service and for being in a better competitive position.

## **5.2 Conclusion**

The Nepal ATM industry has seen explosive growth in recent times. ATM represent the single largest investment in the electronic channel services for the Banks. In Nepal, HBL Limited set the trend and set up the first ATM machine here in 1995. Since then, they have become a common sight in many of our metros. ATM has

gained prominence as a delivery channel for banking transactions in Nepal. Banks have been deploying ATM to increase their reach. While ATM facilitates a variety of banking transactions for customers, their main utility has been for cash withdrawal and balance enquiry. As at the end of October 2009, the number of ATM deployed in Nepal was more than 2000 ATM among them most of them are of Diebold ATM machine then after NCR company and few Wincore machine'. According to the findings of the analysis it can be concluded that the male consumers seems to give more priority to ATM than female and overall, the analysis shows that the frequency of ATM User by both genders is found to be occasionally .In addition to this majority of the people of different age groups as well as different educational class and gender prefers to be occasionally than regularly. Similarly, majority of the people prefers the product which is frequently advertise rather than not advertise product though they are same nature's product but most of them use the product due to their necessity not due the influence of advertisement. Likewise, the impact of marketing on different consumers among the total respondents 82% respondents responded that marketing could leave good impact upon them about the advertised product whereas 18% respondents opined that marketing could not leave any impact upon them. It proved that the marketing has played important role to leave positive impact towards the majority of people. In relation to the role of marketing to attract the consumers, it can be concluded that 83% respondents couldn't say whether they decide to use the product or not after they got some information through any means of marketing and a only a few percent of people i.e, 7% opined that they will use the product after marketing however 10% respondents opinioned that they will not use. It proves that marketing helped to majority of consumer to recall the new technology facility to greater extent but the purchase decision is not fully depends upon the marketing. In relation to the effectiveness of the marketing of ATM's product. From the analysis of the table it can be concluded that 100% of the respondents are familiar with the marketing of ATM's product which indicated that the marketing is the very much effect to introduce the product to the costumer. In relation to the various factor which influence customer to bring into play the product. The factor like trust and security, speed, convenience in

use, cost and marketing are the things which customer take cares before choosing the new product in use. From the table, majority of the respondents 56% responded that they are influenced by the trust and security of in adopting this product were as 16 %are influenced by speed whether it is time consuming than others alternative or not 8% percent are influenced from the cost for using the facilities the product and rest 12 percent are influenced from the marketing of the particular Product. The marketing of IT product like ATM is very much effective to make the customers familiar about the product but majority of them are influenced from the facilities this product not from the marketing though they are know about that product from different means of marketing. Thus, in conclusion it can be concluded that television advertisement seems to be the most popular means of marketing which plays crucial role to enhance the market of the goods manufactured.

### **5.3 Recommendations**

On the basis of the findings of the study, following suggestions or recommendations are recommended:

The study shows that majority of respondents of different age groups and various educational backgrounds prefer ATM's occasionally rather than regular. So, it is recommended to make awareness about the ATM in the market through different means of marketing.

The study shows that majority of the respondents use ATM's facility occasionally and it is more popular with men consumers. So, the suppliers and manufacturer should give preference to the ATM's for withdrawing money and other facilities by focusing more to the women as well as men consumers.

The analysis shows that the information included in marketing are not sufficient and majority of the respondents are willing to get the additional information from the advertisement regarding the various aspects of the product. Thus, advertise

manufactures and suppliers should include sufficient information so that consumer can be satisfied regarding the matters.

The study indicates that most of the consumers prefer marketable product rather than not marketable product and it also indicate that marketing attract the attention of the consumer. Hence, all suppliers should advertise their product to expand the market share.

The study indicate that the marketing of any product leaves the good impact with consumer behavior regarding the product but to some extent their purchase decision is depends upon the need of the consumers also so while advertising the product all suppliers and advertiser should try to create the necessity of the product through effective presentation of product and product related information in advertisement.

The advertisement of ATM's product is very much effective to leave a positive impact upon consumer regarding the product and majority of the respondents prefer the quality of the product rather than other variables. So, all suppliers of ATM's product should produce a product having good quality and advertise their product effectively which helps to increase their market share rapidly.

The study indicates that the ATM's is more popular product than other means of withdrawing money. So the firm should try to maintain this strength in future too.

In the study majority of the respondents stated that the cost of the using ATM's is comparatively higher than other means of withdrawing money. So, the suppliers of ATM's should remove this weakness and the cost of the product should be comparatively reasonable as other means.

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