E-BANKING AND ITS IMPACT ON FINANCIAL PERFORMANCE IN NEPALESE COMMERCIAL BANK

A Thesis

Submitted By

Eluna Pun

Central Department of Management

Roll No. 691/16

T.U. Regd. No. 7-2-117-20-2012

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CERTIFICATION OF AUTHORSHIP

I certify the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the reference section of the thesis.

Eluna Pun October, 2018

RECOMMENDATION LETTER

It is certified that thesis entitled E-banking and Impact on financial performance in Nepalese Commercial Bank submitted by Eluna Pun is an original piece of research work carried out by the candidate under my supervision. Literary presentation is satisfactory and the thesis is in a form suitable for publication. Work evinces the capacity of the candidate for critical examination and independent judgment. Candidate has put in at least 60 days after registering the proposal. The thesis is forwarded for examination.

Assistant Professor Dinesh Mani Ghimire Thesis Supervisor Central Department of Management Tribhuvan University, Kirtipur, Kathmandu, Nepal October, 2018

APPROVAL SHEET

We, the undersigned, have examined the thesis entitled E-banking and Impact on financial performance in Nepalese Commercial Bank presented by Eluna Pun a candidate for the degree of Master of Business Studies (MBS Semester) and conducted the viva voce examination of the candidate. We hereby certify that the thesis is worthy of acceptance.

Assistant Professor Dinesh Mani Ghimire Thesis Supervisor

Internal Examiner

External Examiner

Prof. Bhawani Shankar Acharya Chairperson, Research Committee

Prof. Dr. Puspa Raj Sharma Acting-HOD, Central Department of Management

October, 2018

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Researcher

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ABBREVIATIONS

ABM	:	Automated Banking Machine
ATM	:	Automated Teller Machine
AVR	:	Automated Voice Response
BLB	:	Branchless Banking
EDI	:	Electronic Data Interchange
ICT	:	Information and Communication Technology
IT	:	Information Technology
NCC	:	National Computer Center
NIDC	:	Nepal Industrial Development Corporations
NTC	:	Nepal Telecommunication Corporation
PIN	:	Personal Identification Number
POS	:	Point of Sales
ROA	:	Return on Assets
ROE	:	Return on Equity
SMS	:	Short Message Service
SPSS	:	Scientific packages for Social Sciences
TAM	:	Technology Acceptance Model
WWW	:	World Wide Web

ABSTRACT

E-banking as the wave of the future, provides enormous benefits to consumers in terms of transactions, either through internet banking, mobile banking, ATM card or other electronic delivery channels. The main purpose of this research is to examine the effect of electronic banking on financial performance of commercial bank in Nepal. Both primary and secondary data were used for analysis. Secondary data were collected from banks annual reports and their website and primary data were collected through questionnaire. This study used descriptive and analytical research approach. Appropriate frequency tables were used, a coefficient correlation and multiple regression analysis was also used to explained the relationship between the variables and present the findings. The conclusion of this research is electronic channels (ATM card and Mobile banking) negatively and insignificant impact on financial performance of banks in term of ROA and ROE. Only internet banking had statistically positively and significant impact on profitability of banks in terms of ROA and ROE. And customer's education levels their knowledge about the computer and internet, electronic problem, security problems, trust issue, customer ignorance and internet infrastructure in the country were identified as major challenges faced by the bank regarding the development of their online facilities.

CHAPTER I

INTRODUCTION

1.1 Background of study

The banking industry of the 21st century operates in a complex and competitive environment characterized by these changing conditions and highly unpredictable economic climate. Information and communication technology (ICT) is at the center of this global change curve of electronic banking system today. A study of information of e-banking (Stevens, 2002) asserted that banks have over the time been using electronic and telecommunication network for delivering a wide range of value added and service, manager in banking industry cannot ignore information system because they play a critical impact in current banking system, they point out that the entire cash flow of most fortune banks are linked to information system.

Electronic innovation in banking can be traced back to the 1970s when the computerization of financial institutions gained momentum (pang, 1995). However, a visible presence of this was evident to customers since 1981, with the introduction of the automatic teller machine (ATM). Innovative banking has grown since then, aided by technological developments in the telecommunications and information technology industry. The early decade of the 1990s saw the emergence of automated voice response (AVR) technology. By using the AVR technology, banks could offer telephone banking facilities for financial services. With further advancement in technology, banks were able to offer services through personal computers owned and operated by customers at their convenience, through the use of internet proprietary software. The users of these services were, however, mainly corporate customer rather than retail ones (Sohail and Shanmugham, 2003). The security first networking bank was the first internet banking in the world that was built in 1995, USA. After that some famous banks introduced their internet banking one after another, such as Citibank and bank of America.

In 2008, Bill Gates announced that "banking is essential, bank are not" which reflect that there is a need to adopt e-banking in order to replace the traditional bank branch (Baten and kamil, 2010). Today's banks and financial institutions have moved to e-banking in their efforts to cut costs while maintaining reliable customer services

(Kolodinsky and Hogarth, 2001). E-banking, which consists of uses of different technologies such as Automated Teller Machine (ATM), point of sales (POS), Telephone banking (Tele-banking), Internet Banking, Mobile Banking, etc. have created new ways of handling banking transactions and are also important for the banks in order to have the long term survival (Burnham, 1996). Traditional method of banking are limited by the time, space, and resources but through e-banking, banking services can be obtained outside of the normal opening hours, that is, one can get access to bank services twenty four hours a day and seven days a week (Rubino, 2000). Services like balance inquiry, account information, fund transfer, paying bills electronically, applying for a loan, viewing the image of their cheque and deposit slip etc. are offered through e-banking (Turban et al 2004). Although all the customers get benefit from these services, especially it is appealing to the customers who have hard time keeping track of their finance (Deitel et al, 2001).

Electronic banking can be as the use of electronic delivery channels for banking product and service, and is a subset of electronic finance. It is a automated, smooth, and efficient delivery of modern and traditional banking services through electronic and communication channels. It includes the system that customer use to access account, transact business and obtain information played an important role in improving service delivery standard in the banking service in industry. E-banking refers to the provision of retail and small value banking product and service through electronic channel. Such products and service can include deposit-taking, lending, account management, the provision of financial advice electronic bill payment, and the provision of other electronic payment product and service such as electronic money. According to Sumera et al.(2011),introduction of electronic banking has revolutionized and redefined and number of banks that offer financial services over the internet is increasing rapidly.

Michael Zhang (2010) expressed that e-banking is the newest delivery channel for banking service. Banks have used electronic channels for years to communicate and transact business with both domestic and international corporation customers. E-banking is the process of transaction of money electronically. This payment process involves use of computer network and internet. It is a process of buying and selling of goods and service where the transmission of fund or date is done through network generally internet. Whenever a payment is collected over the, this is an online

payment. Online payment usually is the transactions that result in transfer of money from the customer bank or credit card account to another bank account.

Electronic banking is an umbrella term for the process by which a customer may perform banking transaction electronically without visiting bank as well as institutions. Damenberg and Kellner (1998) gave the definition of E-finance as "the provision of financial service and markets using electronic communication and computation." The use of electronic communication in finance has the history further back than 1970s. In recent year ATM (automatic teller machine) is the most commonly used electronic distribution channel that enables bank customer conduct their banking transection (deposit, withdrawals or balance inquiry.), recording stop payment instruction, balance transfer instruction, account opening and other forms of traditional banking services.

Internet channel has rapidly gained popularity in almost all developed countries and many developing countries. The internet allows business to use information more effectively, by allowing customers, suppliers, employee and partners to get access to the business information they need, when they need it. These internet enabled service all translate to reduced cost. : There are less overhead, greater economic of scale, and increased efficiency.

Internet banking is defined as "the provision of retail and small value banking products and services through electronic channels. Such products and services include deposit-taking, lending, account management, the provision of financial advice, electronic bill payment, and the provision of other electronic payment products and services such as electronic money (Basel, 1998)".

With the established of Nepal Bank Ltd.in 1937, the first bank to start banking in Nepal, it took nearly 53 years for the introduction of credit card by the Nabil Bank Ltd. in early 1990s. As for the development of e-banking in Nepal, Himalayan Bank Ltd. Stood in a front row with the introduction of Automated Teller Machine (1995) and Tele-banking. After the establishment of first bank, Banking sector as well as bank customers have to wait nearly about 65 years for internet banking, and the Kumari Bank Ltd. was the first to start the internet banking in Nepal in 2002 (Mishra, 2008). After ten years of introduction of internet banking, it is still not popular in Nepal, people still rely on traditional ways of banking. Although the major cities like

Kathmandu, Pokhara, Biratnagar have good internet facilities and majority of the bank provides the internet banking in urban cities but still internet banking is in its early stage and is not utilized by most of the bank customers. Study shows that there are about 200,000 internet users in Nepal, out of which 50% user are inside Kathmandu valley. However, only about 3000 (1.5%) internet user is using the internet banking. One of the study have found that in terms of e-banking, ATM services is adapted by most of the banks in Nepal, while mobile banking getting the popularity but internet (computer-based) banking is still not available (Banstola, 2007).

This study attempt to examine impact of e-banking in banks' financial performance using the following sample banks:

Everest Bank Limited

Everest bank limited was established on 1994 A.D Punjab National bank is the joint venture partner of EBL holding 20 percent equity. Everest banking limited (EBL) was one of the first banks to introduce Any Branch Banking System (ABBS) in Nepal. EBL provides customer-friendly services through its wide network connected through ABBS system, which enables customers for operational transactions from any branches. The bank has 80 branches, 113 ATM counters, 7 extension counters and 28 revenue collection counters across the country making it a very efficient and accessible bank for its customers, anytime, anywhere. Found in 1994, the bank has been one of the lending banks of the country and has been catering its services to various segments of the society. With clients from all works of life, the bank has helped develop the nation corporately, agriculturally and industrially. EBL provides ebanking services; it includes DP-online, i-banking and i-banking login, SMS banking and utility bill payment services to the customer. This bank is the first bank that has launched e-ticketing system in Nepal from that day customer can buy yeti airlines ticket through internet and bank also introduces online payment method of PSTN/NCELL/MOBILE/ADSL bill or from the counter too (www.everestbankltd.com)

NIC ASIA Bank Limited

NIC ASIA Bank was founded as NIC Bank on 21 July 1998, is the first commercial bank in the country to be capitalized at NPR 500 million. It was renamed NIC ASIA

Bank on 30 June 2013 after it merged with bank of ASIA Nepal. NIC ASIA bank has 231 branches, 14 extension counters, 15 branch less banking and 220 ATM across Nepal with a network covering all the financial centers of the country. The strongly believes in meritocracy, transparency, professionalism, Team spirit and service excellence. These core values are internalized by all functions within the bank and are reflected in all actions the bank takes during the course of its business. NIC ASIA bank is the one of the largest private sector commercial bank in the country in terms of capital base, number of branches, ATM network and customer base. NIC ASIA Bank, in the verse of its revolutionary business growth has launched yet another saving product with an exceptional facility an account through online portal, first of its kind in the Nepalese banking industry. NIC debit card allow its holder to withdraw cash, inquire balance and make payment through a wide network VISA and SCT Network in Nepal and India. NIC bank launched its SMS Banking Service in 2005 allowing its customers to access their accounts through mobile phones to inquire about balances, viewing transaction history and request chequebooks and statement.(www.nicbank.com.np).

Himalayan Bank Limited

Himalayan Bank was established in 1993 in joint venture with Habib bank limited of Pakistan. Deposit the tough competition in the Nepalese banking sector, Himalayan Bank has been able to maintain a lead in the primary banking activities-loans and deposits. With its head and corporation office at kamaladi, Kathmandu, the bank has 44 branches. Eighteen of its branches are located inside the Kathmandu valley. All branches of HBL are integrated into Globus (developed by Temenos), the single banking software where the bank has made substantial investments. This has helped the bank provide services like 'Any Branch Banking facility ; Internet Banking and SMS Banking. Living up to the expectations and aspirations of the customer and other stakeholders of being innovation, HBL introduced several new products and services. Millionaire Deposit scheme, small and medium enterprises loan. Pre -paid visa card, international Travel Quota credit card, customer finance through credit card and online TOEFL, SAT, IELTS, etc. fee payment facility are some of the products and services. introduced the first Nepali credit card for the domestic market HBL CAED that was the most popular card in the country. Himalayan Bank limited has launched their e-banking services at 6 February 2007 (www.himalayanbank.com).

Nepal Investment Bank Limited

Nepal investment Bank limited is one of the lending commercial banks of Nepal. Previously known as Nepal Indosuez Bank Ltd, the Bank was established in 1986 as a joint venture between Nepalese and credit Agricole Indosuez. The name of Bank was changed to Nepal Investment Bank limited upon approval of the Bank's Annual General Meeting, Nepal Rastra Bank and Company Registrar's Office. The Nepalese investors bought all the share of one of the most trusted and popular bank in the country. Till date it has 66 branches, 4 Extension counters (98 ATM outlets) scattered throughout the country giving modern banking services of international class from 9:30am to 7pm evening. Nepal Investment Bank has launched their e-banking service since 2008. The Bank has implemented its own financial switch system. Which provides online transaction from different delivery channels such as Automatic Teller Machine (ATM), point of sale (POS) terminals. These services are can be extended to new technology based delivery channels such as Internet Banking, payment Gateway (e-commerce) and mobile Banking (www.nibl.com.np).

1.2 Statement of the Problem

E-banking has produced change in the structure of the bank income. Electronic banking is new strategies have become necessary in order to attract and retain existing customers, changing business environments, globalization and the information and communication.

E-banking is rapidly changing the way personal financial services are being designed and delivered. Now, Nepalese commercial banks and financial institutions are trying to introduce e-banking to improve their operations and to reduce costs. Despite all their efforts aimed to developing better and easier e-banking system, these systems remain largely unnoticed by customers, and certainly underused in spite of their availability. Therefore there is a need to understand the effect of e-banking services on financial performance of commercial bank in Nepal.

Nepalese bank are using electronic banking service for their own convenience and for the purpose of retaining existing customers. The cost analysis of most of the bank in Nepal is seemed to be either inadequate or not applied due to their narrow space of business transactions or lack of sufficient tools. The effect of electronic banking on Nepalese bank profitability is negative in the short run because of cost and investments the bank carry in order to have the technical and electronic infrastructure in place, training the employees to be skilled and competent but will be positive on the long run. Therefore in our research we are going to study about the financial performance of Nepalese commercial bank following the adaptation of e-banking system.

This study attempt to find out the answer of the following research questions:-

- 1. What are e-banking tools used by commercial bank?
- 2. What are the challenges faced by the banks while using e-banking system?
- 3. What is the impact of electronic banking on financial performance of commercial bank?

1.3 Objective of the Study

The general objective of the study was to investigate the impact of electronic banking on the financial performance of commercial Banks in Nepal.

Following are the specific objective of the study.

- 1. To identify e-banking tools used by commercial bank.
- 2. To analysis challenges faced by commercial banks while using e-banking system.
- 3. To examine the impact of electronic banking on financial performance of commercial banking.

1.4 Significance of the study

E-banking is the way doing banking transaction through electronic machines (computer is widely used). E-banking can manage all our banking needs 24 hours a day, 7 day a week with online banking. We can make financial transaction from anywhere, where the internet service is available. The history of online banking has always stressed convenience for the customer as have our pay check automatically deposited into our banking account and have it available that day, instead of waiting until the check clears. In addition to getting automatic deposits, online banking financial transaction also includes automatic bill paying.

It is hoped that the adoption of this study's findings recommendations are to contribute to the effort towards the adoption of e-banking, identify best practice in offering e-banking products as well as constraints that impede growth so as to draw relevant policy implication. This will in turn help them decide whether to use ebanking as competitive tools to increase new avenues for banking operations, branch network and profitability without investing in brick and mortar.

Nepalese commercial bank will be able to provide quality services to its customers and even encourage more people to invest in it, and other financial institutions. The banking organization in Nepal will also have a benchmark for measuring their electronic banking services and their financial performance. And this research report will be also provide benefit to customer due to bank customer will be able to carry out their transaction from the comfort of their homes or workplace hence saving on time and resources; they will also gain better understanding of how to carryout bank services using electronic banking. The study will provide the necessary data to the government to help them in policy formulation and also enable them to be able to control its finance efficiently hence be efficient regulation.

In the context of Nepal, most of the people may not aware about the e-banking service system. Therefore this study will help them to get about electronic banking service available to them. Whereas this research report will help the bank to improve on E-banking and financial performance accordingly especially if they adopt the recommendations highlighted. And this research will be used by other future researchers who would be interested in this area of my research.

1.5 Limitation of the Study

All efforts have been made to ensure that the research is done and to optimize the ability to achieve the research objective. However, there are some constraints that do not validate the research but made to be acknowledged.

1. Various factor affecting internet banking this study is focused on only present scenario and performance of bank through e-banking in Nepal.

2. The study was limited to financial performance based on ROA and ROE. These are not the only measures that are used in determining the performance of banks.

3. Only six year has been taken for the study. So an outcome has also address the fact only for that period.

4. The study has been done with limited volume of population sample and findings of the study cannot be fully generalized, as study that is more rigorous is needed with initial from this study.

1.6 Chapter plan

The Structure of the study will try to analyze the report in a systematic way of presentation and finding. This study has been organized into five chapters

Chapter I-Introduction

This chapter will introduce the major concept of e-Banking and its impact on financial performance in Nepalese commercial bank. Its include background of the study, statement of the problem, objective of the study, limitation of the study.

Chapter II- Review of the literature

This chapter will deals with review of relevant theories and article about the study.

Chapter III- Research methodology

Research methodology is the research method used to test the various sector. In designing methodology for a thesis project the following element should be taken into account. They are research design, population and sample, sources of data, data collection techniques as well as presentation and analysis of the data.

Chapter IV- Data presentation and analysis

It includes presentation and analysis of the data has been gathered.

Chapter V- Summary, Conclusion and Implication

Chapter five conclusion provide a summary of overviews on all works carried out in chapter one through four including major conclusion derived from the study. This chapter also includes a separate section for recommendation and scope for future research based on major finding of the.

Reference, Bibliography, and appendixes will also include at the end of the analysis.

CHAPTER-II

LITERATURE REVIEW

This chapter discusses the literature review of the study, the literature review provides the reader with the explanation of the theoretical rational of the problem being studied, types of electronic banking as well as what research has already been done and how the finding related to the problem at hand. The purpose of the literature review is to avoid unnecessary intentional or accidental duplication of material already covered. This literature review was reviewed from previous past major activities that had been undertaken to address the issues in electronic banking. The information was obtained from past reference material such as magazines, newspapers, Jour, and the internet. Critical analysis was discussed and the research gaps established.

2.1 Historical Background of Banking Service in Nepal

Nepal bank Ltd. is the first modern bank of Nepal. It is taken as milestone of modern banking of the country. Nepal bank marks the beginning of a new era in the history of the modern banking in Nepal. This was established in 1937 A.D. Nepal bank has been inaugurated by king Tribhuvan Bir Bikram Shah Dev on 30th kartik 1994 B.S. Nepal bank was established as a semi government bank with the authorized capital of RS 10 million and the paid up capital of RS 892 thousand. Until mid-1940s only metallic coins were used as medium of exchange. So the Nepal Government (His majesty Government on that time) felt the need of separate institution or body to issue national currencies and promote financial organization in the country. Nepal Bank Ltd remained the only financial institution of the country until the foundation of Nepal Rastra Bank is 1956 A.D. Due to the absence of the central bank, Nepal bank has to play the role of central bank and operate the function of central bank. Hence, the Nepal Rastra Bank Act 1955 was formulated, which was approved by Nepal government accordingly, the Nepal Rastra Bank was established in 1956 A.D. as central bank of Nepal .Nepal Rastra Bank makes various guidelines for the banking sector of the country. A sound banking system is important for smooth development of banking system. It can play a key role in the economy. It gathers savings from all over the country and provides liquidity for industry and trade in 1957 A.D. industrial Development Bank was established to promote the industrialization in Nepal, which

was later converted into Nepal Industrial Development Corporation (NIDC) in 1959 A.D. Rastriya Banijya Bank was established in 1965 A.D. as the second commercial bank of Nepal. The financial shapes for these two commercial banks have a tremendous impact on the economy. That is the reason why these banks still exit in spite of their bad position. As the agriculture is the basic occupation of major Nepalese, the development of this sector plays in the prime role in the economy. So, separate Agricultural Development Bank was established in 1968 A.D. this is the first institution in agricultural financing. For more than two decades, no more banks have been established in the country. After declaring free economy and privatization policy, the government of Nepal encouraged the foreign banks for joint venture in Nepal. Today, the banking sector is more liberalized and modernized and systematic managed. There are various types of bank working in modern banking system in Nepal. It includes central, development, commercial, financial, co-operative and Micro Credit (Grameen) banks. Technology is changing day by day. And changed technology affects the traditional method of the service of bank (Pandy, 2007).

2.1.1Electronic Banking in Nepal

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. (Yadev, 2004)



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 development 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).

2.1.2 Information technology (IT) in Nepal

Banking environment has become highly competitive today. Information technology refers to the acquisition, processing, storage and dissemination of all types of information using computer technology and telecommunication systems. Information technology architecture is an integrated framework for acquiring and evolving IT to achieve strategic goals. These technologies are used for the input, storage, processing and communication of information. Information technology includes ancillary equipment, software, firmware and similar procedures, services etc. the basic need of information technology (IT) in banking sector are meeting Internal Requirements,

Effective in Data handling, Extending customer services. Information technology enables sophisticated product development, better market infrastructure, implementation of reliable techniques for control of risks and helps the financial intermediaries to reach geographically distant and diversified markets (Thyaga, 2016).

Information technology (IT) is the use of any computers, storage, networking, and other physical devices, infrastructure and processes to create, process, store, secure and exchange all forms of electronic data. Information technology sector is one of the growing sectors in Nepal. IT in Nepal is just on starting phase some of organization are following the IT in their working lifestyle. It is based on using of technological part in the work for the fast and reliable delivery of services. Before 10 year no one knows about IT in Nepal but now days directly indirectly they are involved in IT and they are using the IT facilities and services provided by IT. It is very useful in Nepal for develop also. Many IT college are opening in Nepal for extend the knowledge of IT in Nepal.Introduction of first IBM-1401 computer in 2071, in the national computer center (NCC) at Kathmandu in 1971 for the national population census, saw advent of electronic data processing technology in Nepal. Modern the telecommunication services, which are the backbone of IT, are recently developed. In Nepal first telephone exchange was established in 1960. Telephone services are provided only by Nepal telecommunication corporation (NTC), agovernment undertaking. There are more than 7 private Internet service providers (ISP) in the Kathmandu valley, besides NTC. Government has also issued license for cellular and WLL networks to private parties. These days many teenagers are hooked to Internet chat and mail services. Internet cafes have sprouted like mushrooms in the country. Tourists visiting the country are also finding it very handy and useful. Web designing courses are in very much demand. Internet is fast becoming a household necessity. Internet users are estimated to be around 22, 00,000 currently and it is fast increasing.

2.1.3Information and communications technology (ICT)

ICT (information and communications technology- or technologies) is a broad term that includes any simple or sophisticated communication devices or application like radio, television, cellular phone, computer and network hardware and software, satellite systems. And so on used in producing distribution, processing and transforming information (Marcelle, 2001). ITC not only means mobile and televisions but it includes the system in our day to day use like transportation means, banking, shopping and many more technological progress is a considerable driving force behind economic growth, citizen engagement and job creation for countries of all development levels(Hanna, 2010).

Information and communication technologies (ICTs), in particular, are reshaping many aspects of the world's economics, governments and societies. In developed countries, public officials, businesses and citizens are working together to harness the transformative power of ICTs to make services more efficient, catalyze economic development and strengthen social networks. ICT helps countries connect and control anything easily and efficiently. Globally now the strength of the countries are not just measured in the means of their military strength but also in their ICT advancement. Defining ICT as an integral part of development United National has also been actively promoting ICT for development (ICT4D) as a means to bridge divide (Steyn & Jonanson, 2011).

ICT is the technology of computers, telecommunication and other devices that integrate data, equipment, personal and problem solving method in planning and controlling businesses activities, information technology provides the means for collecting, storing, encoding, processing, analyzing, transmitting, receiving and printing text, audio and video information. ICT has empowered top management of banks of Nepal to gain greater visibility and control. It also provides a wide range of financial options and greater convenience with borderless approach. Besides, it has opened the banking services and products beyond local market, especially for Nepalese residing abroad to have banking relationship with their banks in Nepal. At present context, Nepalese banks are ready to provide world-class service to their customers. Revolution in information and technological innovations and its use in banking activities have led credence to transformation of manual system banking operations to technology based banking all over the world and in recent years information and communication technology (ICT) have been recognized as heart of banking sector while for a robust economy banking sector is playing a significant role (Siddik, Sun, Kabiraj, Shanmugan & Yanjuan, 2016).

2.1.4 Internet Banking

Internet banking, sometimes called as online banking is an outgrowth of PC banking. Internet banking uses the internet as the delivery channel by which to conduct banking activity, for example, transferring fund, paying bills, viewing checking and saving account balances, paying mortgages and purchasing financial instrument and certificate of deposits. An internet-banking customer accesses his or her accounts from a browse-software that runs internet banking programs resident on the banks World Wide Web server not on the user's PC. Net banker defines a 'net internet bank' as on that provides account balance and some transactional capabilities to retail customers over the World Wide Web. Internet banks are also known as virtual, cyber, net, interactive or Web banks. The bank updates accounts and records of transaction almost instantly on the internet. This focus of banking comes with both benefits and scans. Banks needs to enhanced security measures to ensure the safety and privacy of internet transactions but also it is said that internet provides a secure medium for transferring funds electronically between bank account and also for making banking transactions over the internet. By this system, all banking activities that were conventionally done by visiting a bank can now be done through a computer with internet access (Sahayogee, 2018).

Internet technology holds the potential to fundamentally change banks and the banking industry. An extreme view speculates that the internet will destroy old models of how bank services are developed and delivered (DeYoung, 2001a). The widespread availability of internet banking is expected to affect the mixture of financial services produced by banks, the manner in which banks produce these services and resulting financial performances of these banks. Whether or not this extreme view proves correct and whether banks take advantage of this new technology will depend on their assessment of the profitability of such a delivery system for their services. In addition, industry analysis outlining the potential impact of internet banking on cost saving, revenue growth and risk profile of the banks have also generated considerable interest and speculation about the impact of the internet on banking industry (Berger,2003).

Banking through internet has emerged as a strategic resource for achieving higher efficiency, control of operations and reduction of cost by replacing paper based and labor intensive method with automated processes thus leading to higher productivity and profitability. However, to data researchers have produced little evidence regarding these potential changes. Nonetheless, recent empirical studies indicate that internet banking is not having an independent effect on banking probability (Malhotra & Sing, 2009).

Among the different channels of internet banking is increasingly becoming popular because of convenience and flexibility. Under internet banking customers perform their banking activities electronically over the internet through their personal computer or laptop at time convenient to them, without having to be restricted to regular branch operating hours. Internet banking reduces not only operational cost to the bank but also leads to higher levels of customer satisfaction and retention. Internet banking is an innovative distribution channel that offers less waiting time and a higher spatial convenience that traditional branch banking with significantly lower cost structure than traditional delivery channel (Mols, 1999).

After the establishment of first bank, banking sector as well as bank customer have to wait nearly about 65 year for internet banking, and the Kumari Bank ltd. was the first start the internet banking in Nepal in 2002 (Mishra, 2008). After ten years of introduction of internet banking, it is still not popular in Nepal, people still rely on traditional way of banking. Although the major cities like Kathmandu, Pokhara, Biratnagar have good internet facilities and majority of the bank provides the internet banking in urban cities but still internet banking is in its early stage and is not utilized by most of the bank customers. Study shows that there are about 200,000 internet users in Nepal, out of which 50% user are inside Kathmandu valley. However only about 3000 (1.5%) internet user is using internet banking (Banstola, 2007).

2.1.4.1Benefit of Electronic Banking

The prime advantage of e-banking system is reduction in operating cost per transaction. As e-banking enables banks transfer some of its transaction processing tasks directly to their banking customers. To enjoy these benefits of e-banking system, banks are encouraging their customers to adapt e-banking system and manage their own banking through ATMs and online banking. Now, banks view e-banking which helped in reducing operating cost as an important value added feature to attract and maintain exiting and prospecting banking clients. The estimate cost of per e-banking transaction is \$0.01, whereas, estimate cost of per fully services branch transaction is \$1.07, which is very high comparatively to the e-banking transaction cost per (Sarel and Mamorstein, 2003 and Nath et al.,2001).

Electronic banking services have provided numerous benefits for both banks and customers. Following are the major advantage of electronic banking services.

Benefits to Customer

General consumers have been significantly affected in a positive manner by Ebanking. Many of the ordinary tasks have now been fully automated resulting in greater ease and comfort.

- a. Customer can withdraw can at any time through ATMs that are now widely available throughout the country.
- b. Through Internet banking customers can operate his account while sitting in his office or home. There is no need to go the bank in person for such matter.
- c. E-banking has also greatly helped in payment of utility bill. Now there no need to stand in long queues outside banks for his purpose.
- d. All services that are usually available from the local bank can be found on a single website.
- e. The growth of credit card usage also owes greatly to e-banking. Now a customer can shop worldwide without any need of carrying paper money with him.
- f. Banks are available 24 hours a day, seven day a week and they are only a mouse click away.

Benefit to Banking Industry

Banking industry has also received numerous benefits due to growth of e-banking infrastructure. There are highlighted below.

- a. The growth of e-banking has greatly helped the bank in controlling their overheads and operating cost.
- b. Many repetitive and tedious tasks have now been fully automated resulting in greater efficiency. Better time usage and enhanced control.
- c. Electronic banking has greatly helped the banking industry to reduce paper work, thus helping them to move the paper less environment.
- d. Electronic banking has also helped bank in proper documentation of their records and transactions.
- e. The reach and delivery capabilities of computer networks, such as the internet, are far better than any branch network.

Benefit to general economy

Electronic banking as already stand has greatly serviced both the general public and the banking industry. This has resulted in creation of a better enabling environment that supports growth, productivity and prosperity. There are highlighted below.

Economic benefit

E-banking served so many benefits not only to the bank itself, but also to the society as a whole

- a. Lower operational costs of banks.
- b. Automated process.
- c. Accelerated credit decision.
- d. Lowered minimum loan size to be profitable.

Potentially lower margins:

- a. Lower cost of entry
- b. Expanded financing reach
- c. Increased transparency

Expand reached through self-service

- a. Lower transaction cost
- b. Make some corporate services economically feasible for society
- c. Make anytime access to accounts and loan information possible

2.1.4.2Tools of Electronic Bank

There are various tools of electronic banking implemented in the banking sector. Among the widely knows are defined below.

- a. Mobile Banking/SMS banking
- b. Internet Banking
- c. Automatic Teller Machine (ATM)
- d. Branchless Banking (BLB)
- e. Telephone Banking (Tele Banking)

a. Mobile Banking/SMS Banking

Mobile banking is a service provided by a bank or other financial institutions that allows its customer to conduct financial transaction remotely using a mobile device such as a smartphone or tablet. Transaction through mobile banking may include obtaining account balances and lists of latest transactions, electronic bill payments, and fund transfers between a customer's or another's account. Some apps also enable copies of statements to be downloaded and sometimes printed at the customer's premises and some banks charge a fee for mailing hard copies of bank statements. In context of Nepal Jun 14, 2016-The number of mobile banking service users has reached 1.5 million as of mid-May, which is nearly 10 percent of the total deposit accounts in Bank and Financial Institutions (BFIs). There are 16.12 million saving account in BFIs, according to Nepal Rastra Bank (NRB). Among the BFIs, the number commercial bank customers using mobile banking services stands at 1.43 million. Mobile banking services covered under this product include account enquiry, fund transfer, and recharge phones, changing of passwords and bills payment (Sathye, 1999).

b. Internet banking

Internet banking involves conducting banking transactions such as account enquiry printing of statement of account; fund transfer payment for goods and services, etc on the internet (World Wide Web) using electronic tools such as the computer without visiting the banking hall. E-banking commerce is greatly facilitated by internet banking and is mostly used to effect payment. Internet banking also uses the electronic card infrastructure for executing payment instruction and for final settlement of goods and service over the internet between the merchant and the customer, currently the most common internet payment are for consumer bills and purchase of air ticket through the website of the merchants(Littler, 2006).

c. Automated Teller Machine (ATM)

An Automated Teller Machine is an electronic telecommunications device that enables customers of financial institutions to perform financial transactions, such as cash withdrawals, deposit, transfer funds or obtaining account information, at direct interaction without bank staff. On most modern ATM, customers are identified by inserting a plastic ATM Card (or some other acceptable payment card) into ATM, with authentication being by the customer entering a personal identification number (PIN), which must match the PIN stored in the chip on the card (if the card is so equipped), or in the issuing financial institution's database. Using an ATM, customer can access their bank deposit or credit accounts in order to make a variety of financial transactions such as cash withdrawals, check balances, or credit mobile phones (Wikipedia, Automated teller machine).

d. Branchless Banking (BLB)

Branchless Banking is means of providing banking services without setting up bank branch i.e. providing banking services by an agent of the bank. The bank has started its BLB operation from Jestha 30,2069 at Matiyani of Mahottari District after taking approval from Nepal Rastra Bank. Branchless banking is a distribution channel strategy used for delivering financial services without relying on bank branches. While the strategy may complement an existing bank branch network for giving customer a range of channels through which they can access financial services, branchless banking can be used as a separate channel strategy that entirely forgoes bank branches (Thompson, 1999)

e. Telephone Banking (Tele Banking)

Telephone Banking is a service provided by a bank or other financial institution, that enables customers to perform over the telephone a range of financial transactions which do not involve for cash or document (such as cheques), without the need to visit a bank branch or ATM. Telephone banking times are usually longer than branch opening times, and some financial institution offer the service the service on 24-hour basis. However, some banks impose restrictions on which account may be accessed through telephone banking and usually limit the amount that can be transacted.The types of financial transactions which customers may transact through telephone banking include obtaining account balances and list of latest transactions, electronic bill payment, and fund transfer between a customer and another's accounts. Service rendered through telephones banking include account balance funds transfer, change of pin, and recharges phones and bills payment(James, 2009).

2.1.5 Challenges in Electronic Bank

Poor E-banking planning and investment decision can increase a financial institution's strategic risk. Some of the problems that customer face in using electronic banking services include risk arising from fraud, network and system error and other unanticipated events resulting in the organization's inability to covey banking

products and services. This risk could be inherent in different product and services (Early, 2000).

Other challenges associated with electronic banking spans from the types of technology selected, lack of knowledge and lastly implementation. (Early, 2002) furthermore, identified that while managers understand their business and operational process, their employee mostly lack the skills and experience to adapto software technologies and educate their customer.Inadequate skilled managers and requisite tools on end users and client systems, here efforts should be done in provision of infrastructure and skilled man power, another problem is the large accumulation of cash in the economy and in this the government should compel legislation that would charge the dominance of cash usage to electronic payments. Also there is high charge or cost for the e-payment terminals (ATM) so the banking legislation should set out standard charges for e-payment services (Littler, 2006).

There are many challenges faced by Nepalese bank while using electronic banking service as following.

- a. Power failure and communication link
- b. Lack of computer bank up
- c. High charge on machine
- d. Insecurities in banks
- e. Lack of adequate investment capital
- f. Low public acceptance
- g. Reduces employment in the country

a. Power failure and communication link

Constant electronic failure leads to deficiencies in infrastructure such as ATMs computers etc. which slows down the rate of electronic transactions and also failure links from Nitel lines which are often as a result of spikes and surges caused consistent electronic power supply (Akinuli, 1999).

b. Lack of computer backup

As a result of lack of computer backup when the bank system is corrupt there will be a loss of information about a customer, and this may lead to misappropriation of customers account, therefore the bank should have a manual backup (ledger) containing all data about the customers(Akinuli 1999).

c. High charge on machine

The rate of commission or charges imposed by banks is too high thereby discouraging customers from using the electronic machine for exchange of transaction example of such charge are charged on withdraw ATMs and online transfer from one bank branch to another(James, 2009).

d. Insecurities in bank

Most electronic machines today are not secure thereby making it easier for fraudulent personnel to carry out their fraudulent activities without been caught. Due to insecurity, bank cannot prevent stop or dictate any fraudulent activity. Computer hackers also use the system in stealing data or information by breaking of codes (Hodagho, 1996).

e. Lack of adequate investment capital

Funds that can be used to buy information technologies and for modernizing exiting system is generally in short supply. While there are a number of modern banking applications in use, there is also integrated banking system, which continued to experience innovations in terms of product development specifically, and there has been tremendous improvement in the speed in which fund are transferred within and outside the domestic economy(James, 2009).

f. Low public acceptance

Customers and public do not have trust in the machine in the sense that fraudulent personals uses the system in carryout fraudulent activities, even today banks uses the machine in looting customers money from their accounts. Some customer complains that sometimes when they go for withdraw with their ATM the machines will seize the card while their account will still be debited with un withdraw sum in course of ratification of this problem, the customer might be discouraged because it will take a longer time or end up unsolved (James, 2009).

g. Reduces employment in the country

Electronic banking in the country today has reduced the rate of employment in the country whereby most works that should be done by human are done by machines thereby lead to minimum rate of employment and high rate of unemployment in the country (Oleka, 2009).

2.1.6Risks of electronic banking

The growth of electronic banking has created a new basis with regard to the degree of exposure to the risk and therefore consequently the need of not only a differentiated regulating frame, but also mechanisms of monitoring to be formed, which has already begun to be shaped in the fields of Basle Committee of Banking Supervision.

The business risk is the risk of not being able to achieve the business targets due to the inappropriate strategies, inadequate resources or changes in the economic or competitive environment. It has to do with the ability the credit institution has in order to achieve the operational objectives by exploiting the available opportunities in the market. The big changes on the banking sector and the adoption of fast paced evolving technology also change the traditional strategic risks. A bank that will rush into the adoption of new technologies so that it is rendered pioneer is risking losing its investment as information system lose their value in very short time interval. Moreover, there is the risk of extensive investment in particular products or services, which will not become acceptable by the end users. On the other hand, if it maintains a more conservative attitude there is the risk of becoming last, in an environment where the competition is moving fast and strengthens its place in the market (Solanki, 2012). Apart from the above difficulties, Chaudhary & Chauhan (2015) found some problems of internet banking as follows:

a. Transaction/Operation risk

Transaction/Operation risk arises from fraud, processing errors, system disruptions, or other unanticipated events resulting in the institution's inability to deliver products or services. This risk exists in each product and service offered. The level of transaction risk is affected by the structure of the institution's processing environment, including types of services offered and the complexity of the processes and supporting technology.

b. Reputational risk

Reputation risk arises from actions which cause major loss of the public confidence in the banks' ability to perform critical functions or impair bank customer relationship. It may be due to banks' own action or due to third party action. The main reasons for this risk may be system or product not working to the expectations of the customers, significant system deficiencies, and inadequate information to customers about product use and problem resolution procedures. Such situation may cause customer-discontinuing use of product or the service. Directly affected customers may leave the bank and others may follow if the problem is publicized.

c. Strategic risk

A financial institution's board and management should understand the risks associated with e-banking services and evaluate the resulting risk management costs against the potential return on investment prior to offering e-banking services. Poor e-banking planning and investment decisions can increase a financial institution's strategic risk. Early adopters of new e-banking services can establish themselves as innovators who anticipate the needs of their customers, but may do so by incurring higher costs and increased complexity in their operations.

d. Compliance/Legal risk

Compliance and legal issues arise out of the rapid growth in usage of e-banking and the differences between electronic and paper-based processes. E-banking is a delivery channel where the laws and rules governing the electronic delivery of certain financial institution products or services may be ambiguous or still evolving.

e. Cross border risk

Electronic banking activities are based on technology that by its very nature is designed to extend the geographic reach of banks and customers. Such market expansion can extend beyond national borders, highlighting certain risks. Although banks currently face similar types of risks in international banking, it is important to note that these risks are also relevant to the cross-border conduct ofe-banking. Banks may face different legal and regulatory requirements when they deal with customers across national borders.

f. Security risk

Security risk arises on account of unauthorized access to a bank's critical information stores like accounting system, risk management system, portfolio management system etc. security risk could result in directly financial loss to the bank. For example, hackers operating through the internet could access, retrieve and use customer information and also can implant virus. This may result in loss of data, theft of or tampering with customer information etc.

g. Other risk

Traditional banking risks such as credit risk, liquidity risk, interest rate risk, and market risk may be arise from electronic banking and electronic money activities, though their practical consequences may be of a different magnitude for banks and supervisors than operational, reputational, and legal risks

Credit risk:

Credit risk is the risk that a counter party not settle an obligation for full value, either when due or at any time thereafter. Bank engaged in electronic bill payment programs may face credit risk if a third party intermediary fails to carry out its obligations with respect to payment.

Liquidity risk:

Liquidity risk is the risk arising from a bank's inability to meet its obligations when they come due, without incurring unacceptable losses, although the bank may ultimately be able to meet its obligations.

Interest rate risk:

It refers to the exposure of a bank's financial condition to adverse movement in interest rates. Banks specializing in the provision of electronic money may face significant interest rate risk to extent adverse movement in interest rate decrease the value of assets relative to electronic money liabilities outstanding.

Market risk:

Market risk is the risk of losses in on- and off-balance sheet position arising from movement in market prices, including foreign exchange rates.

2.1.7 E-commerce

E-commerce is the activity of buying or selling of product on online service or over the internet. Electronic commerce draws on technologies as mobile commerce, electronic fund transfer, supply chain management, internet marketing, and online transaction processing, electronic data interchange(EDI), inventory management systems, and automated data collection systems. Modern electronic commerce typically uses the World Wide Web for at least one part of the transaction's life cycle although it may also use other technologies such as e-mail. Typical e-commerce transactions include the purchase of online books (such as Amazon) and music purchase (music download in the form of digital distribution such as iTunes store), and to a less extent, customized/personalized online liquor store inventory service. IT or E-business or E-commerce is not about routine information management or automation, it is about using these unique tools to create opportunities, create new market, new processes and growth or increase the creation of e-wealth (Hampton-Sosa et al. 2005).

E-commerce is limited to the selling and buying by means of Internet, or in other word conducting e-transactions over the Internet. However, e-commerce can also have an information and communication function. Web is used to support but not to replace a company's main business activities. In the informational and communication approach the web is used as a supplement to traditional marketing delivering additional benefits to customers and building relationship with them. Like this the firm can build brand awareness and image, and can use the Web as a cost-effective way by providing large quantities of information to customers and giving a company an instants global presence (Wen et al., 2001).

E-commerce is rapidly transforming the way in which enterprise are interacting among each other as well as with customers and governments. The technologies designed to improve commercial transaction using the Internet have evolved as quickly. E-commerce has the ability to play an instrumental role in helping developing economics benefit more from trade (WTO-2013). The growing use of internet, tablet devices and smart phones coupled with large consumer confidence will continue to evolve and expand. With social media growing exponentially in recent year, the conservation between business and consumer has become more engaging, making it easier for transactional exchanges to happen online (Khan, 2016).

The beginning of e-commerce can be traced to the 1960s, when businesses started using Electronic Data Interchange (EDI) to share business documents with other companies. In 1979, the American National Standards Institute developed ASC X12 as a universal standard for businesses to share documents through electronic networks. After the number of individual users sharing electronic documents with each other grew in the 1980, the rise of eBay and Amazon in the 1990s revolutionized the e-commerce industry. Consumers can now purchase endless amounts of item online, from e-tailers, from typical brick-and-mortar stores with e-commerce capabilities, and from one another. As of January 2017, there were 50 ISPs in Nepal, with about 2,00,000 subscribers, accounts are commercial, with businesses using promoting their products and services and communicating with foreign businesses vie
the internet. Online activity is concentrated in Kathmandu and a half-dozen other cities, with relatively little internet penetration in rural areas, although this is slowly changing. While relatively little internet business activity is conducted online, the market is growing. As of May 2017, there were more than 56,286 registered websites in Nepal, including 40,000 commercial websites. Many businesses rely on the internet when dealing with foreign partners. E-commerce is still in its infancy in Nepal. The country's challenging terrain and lack of street addresses make deliveries a challenge. Credit card transfers from e-banking websites are sometimes accepted. But Nepal is whonot have a dollar account cannot make payments using foreign currency. Over the past decade, e-commerce has transformed the way the business is being done in the developed world. It instantly becomes a successful model in regions like USA and Europe, and now the developing economics are also using this tool to grow their business. Nepal is a developing economy and according to the Economic Times, the country will experience a dip in economic growth in the year 2015 due to political turmoil and deadly earthquakes that disrupted the business activity in the country. However, the statistics compiled by the World Bank also suggest that there will be improvement in the year 2016 as the growth rate will climb up from 3.4 percent to 3.7 percent. This economic growth can be attributed to the flourishing e-commerce sector in the country. With the influx of latest technology from neighboring countries, such as India, Nepal is on its way to success through e-commerce. Online shopping is taking the Nepalese market by storm and it is facilitated by fast speed inexpensive 3G and 4G internet technology. The convenient modes of payments and user friendly shopping apps are further paving a pathway to unprecedented growth in the ecommerce sector. According to a report compiled by kaymu, leading online marketplace in Nepal, the e-commerce sector is growing at a rapid pace, people are showing more trust in these marketplaces that offer a range of products from electronic items to home appliances to apparels. People are more inclined towards purchasing mobile phones, used motor vehicles (export.gov, Nepal-ecommerce).

E-commerce can be classifying six types which are explained below:

a. Business-to-consumer(B2C)

B2C e-commerce encompasses transactions made between a business and a consumer. This is one of the most widely used sales models in the e-commerce context.

b. Business-to-Business (B2B)

B2B e-commerce related to sales made between businesses, such as a manufacture and a wholesaler or retailer. Most often, business-to-business sales focus on raw materials or products that are repackaged or combined before being sold to customers.

c. Consumer-to-Consumer (C2C)

One of the earliest forms of e-commerce is the C2C e-commerce business. Customer-to-customer relates to the sale of products or services between customers.

d. Consumer-to-Business (C2B)

C2B reverses to traditional ecommerce model. C2B means individual consumers make their products or services available for business buyers.

e. Business-to- Administration (B2A)

This model covers the transactions made between online businesses and administrations. An example would be the products and services related to legal documents, social security, etc.

f. Consumer-to-Administration (C2A)

C2A might include things like online consulting for education, online tax preparation etc.

2.2 Empirical review

Siam (2006) investigated the role of electronic banking services on the profits of Jordanian banks. He investigated the reasons behind providing electronic banking services through the internet and their impact on banking services in general and banks profitability. The study was done in 20 commercial banks operating in Jordan. The sample period was between 2003 to 2006 and they interviewed 98 managers. Accounting data was used to measure banks performance using regression analysis. He concluded that the effect of electronic banking services on banks profitability is negative in the short run because of costs and the investments the bank carry in order to have the technical and electronic infrastructure in place, training the employees to be skilled and competent but will be positive on the long run. Jordanian people are conservative as opposed to Kenyans who are widely known to be technology savvy It would therefore be important to investigate whether many of the innovations in e-

banking adopted by commercial banks in Kenya has an effect in their financial performance.

Malhotra and Singh (2009) studied the impact of internet banking on bank performance and risk in India. The study was done on 85 commercial banks over the period 1998-2006 which represented nearly 39 percent of total scheduled commercial banks in India. Using information drawn from the survey of 85 scheduled commercial bank's websites, the results showed that nearly 57 percent of the Indian commercial banks are providing transactional Internet banking services. The univariate analysis indicated that internet banks are larger banks and have better operating efficiency ratios and profitability as compared to non-Internet banks. Internet banks 16 rely more heavily on core deposits for funding than non-Internet banks do. However, the multiple regression results reveal that the profitability and offering of internet banking has a significant and negative association with risk profile of the banks. Since the study was based on only internet banking it's important to extend the study to cover to cover other forms of electronic banking.

Onay (2008) studied the impact of internet-banking on banks profitability in Turkey. The analysis covered 13 banks that had adopted online banking in Turkey between 1996 and 2005. By using bank specific and macroeconomic control variables, they investigated the impact of internet banking on the return on assets(ROA) and equity(ROE), the interest spread, overhead expenses and on commission and fee income controlling for systemic bank crises in the country during the timeframe. The study included time-lagged measures of internet banking adoption to exhibit the changes in effect over time. The results showed that internet banking starts contributing to banks' ROE with a time lag of two years confirming the findings of while a negative impact is observed for one year lagged dummy. The results provided some evidence that investment in e-banking is a gradual process. It would important to carry out a similar research in Kenya since Turkey is an advanced economy compared to Kenya.

Sumra, Manzoor and Abass (2011) carried out a study on the impact of e-banking on the profitability of Pakistani banks. The study was qualitative in nature assessing the qualitative factors in determining the impact of e-banking. It also discussed the effect of customers' literacy on provision of services from banks' perspective. The study was conducted in 12 Pakistani banks from three cities. The results showed that ebanking has increased the profitability of banks; it has enabled the banks to meet their costs and earn profits even in the short span of time. The 17 illiteracy of customers is not regarded as a major impediment in provision of their products and services. For banks, the main motive to adopt e-banking is to increase their clientage and to retain their customers. The profitability of banks has augmented in transitioning to ebanking medium. It would be important to carry out a similar qualitative research in Kenya to determine whether similar results would be obtained.

Njuguna et al. (2009) conducted a study on internet banking adoption in Nairobi County, Kenya between 2010 and 2011. The purpose of the study was to establish the factors that influence adoption of internet banking among the individuals who have accounts with commercial banks in Nairobi County; Kenya. Only 24.82% of the respondents use Internet banking services. This is despite the high rate of internet access recorded. They concluded that internet banking is still at its nascent stages as demonstrated by the length of usage response. The results also revealed that perceived usefulness, perceived ease of use, self-efficacy, relative advantage, compatibility, and result demonstrability have a significant association with intention to use internet banking, while risk, visibility and trialability are not significant. It would be good to find out if there has been any change with the increase uptake and usage of smart phones and tablets by Kenyans.

Gikandi and Bloor (2010) investigated adoption and effectiveness of electronic banking in Kenya. The results showed that there was a drastic shift in the importance attached to some e-banking drivers between years 2005 and 2009. In the 2005 survey, the number of other retail banks adopting e-banking was considered as a driver of medium importance by 70% of the banks, however, in the 2009 survey it was ranked among the extremely important drivers by a 100% of the banks. Similar observations were made in the case of competitive forces. Internet security was identified as the most important future challenge in e-banking while customer trust, 18 privacy and awareness were recognized as challenges of great importance. The study concluded that cost reduction and customer related factors have emerged as the main drivers of e-banking adoption in Kenya. Mobile banking growth is expected to continue. It would be good to find out if there has been any change with the increase in

competition among commercial banks in Kenya and changes in the regulatory environment.

Kingoo (2011) investigated the relationship between e-banking and financial performance of commercial banks in Kenya. The study was conducted in the 43 commercial banks in Kenya. The sample period was between 2006 and 2010 and used both descriptive and inferential statistics to analyze the data. The results indicated that bank performance (measured by return on assets) are explained by independent variable the e-banking measured by Investments in e-banking and number of debits cards issued to customers. Thus, there exists positive relationship between e-banking and bank performance. The study concluded that the adoption of electronic banking has enhanced Kenyan banking industry by making it more productive and effective. Since the study period was a few years ago and financial performance was measured using only ROA, it would be important to extent the study with use of other measures of electronic banking like fees and commission which is an indicator of usage by customers.

Okiro and Ndungu (2013) investigated the impact of mobile banking and internet banking on financial performance of financial institutions in Kenya. The study also sought to identify the extent of use of mobile and internet banking in financial institutions. The population of interest in the study consisted of 61 financial institutions operating in Kenya. The study revealed that among the financial institutions surveyed, commercial banks had the highest usage of internet and mobile banking; SACCOs had the second highest usage whereas none of the microfinance 19 institutions used internet banking. The study found that mobile banking faces various challenges among them being, system delays by the mobile money transfer service providers, slow processing of transactions especially during the weekends, high transactions costs, limit on the amount of money that can be withdrawn in a day and fraud. It would be important to extent the study to wider electronic banking and check whether it would have an effect on their financial performance.

DeYoung et al. (2007) tried to compare two different waves of adoption of internet banking to find out how the internet can change the performance of banks. The first wave of US banks to adopt transactional banking web sites in the late-1990s, and compare the change in their 1999-2001. Finding of the study shows that internet adoption has improved the community bank profitability, chiefly through increased revenues from deposit service charge. Internet adaptation was also associated with movements of deposits from checking accounts to money market deposit accounts. This is also responsible for the increased use of brokered deposits, and higher average wage rates for bank employees. The result shows little evidence of changes in the loan portfolio. Finding suggested that the initial click-and-mortar banks (and their customers) used the internet channel as a complement to, rather than a substitute for, physical branches.

Kegan et al. (2005) in their study on internet banking and performance of community banks examined the impact of online banking applications on community banks performance in America. The study used a structural equation model to create an online banking index and an econometric model to evaluate bank performance. A survey of ten community banks was conducted. Once the pilot study was considered 21 acceptable, all community banks with total assets less than One billion United States Dollars operating in Iowa, Minnesota, Montana, North Dakota and South Dakota were identified and using the structural equation model to evaluate the various variables identified and used to examine whether the index explains differences in community bank performance. The results indicated that banks that provide extensive online banking services tend to perform better than those who lag behind. In addition, online banking helps community banks improve their earnings ability as measured by return on equity and improve asset quality. Since the study was conducted in a highly technologically advanced economy this study sought to find out how the counterparts in developing countries like Kenya do perform.

Aduda & Kingoo (2012) investigated the relationship between e-banking and performance of Kenyan banking systems. The study used secondary data which was collected from annual reports of the target banks and they used both descriptive and inferential statistics to analyze the data. The study revealed that there exist a positive relationship between e-banking and bank performance since e-banking has brought services closer to bank customer's hence improving banking industry performance. Since the study was confined to commercial banks that operate mostly in urban areas, it would be important to extent the study to microfinance institutions since modern innovations are aimed at marginalized areas and customers not served by the commercial banks. This study investigated whether banking services offered by in

commercial banks can be adopted and work for other financial institutions like DTMs. 22

Muriuki (2009) identified the factors that affect the adoption of e-banking by MFIs in Kenya. The objective of the study was to assess the factors that affect the adoption of e-banking by MFIs in Kenya; and to rank the importance of such factors. A descriptive research design was adopted and data collected using a questionnaire administered to each respondent. Among the factors were organizational factors, perceived technological factors, perceived external factors. Results indicate that MFIs with a strong support and commitment to e-banking from top management are more likely to adopt it. MFIs that have requisite IT and business resource (Infrastructure and skills) for e-banking adoption stands a better chance at adopting e-banking. MFIs are not exempt from technological advancement especially for fast service delivery and therefore to remain relevant and reap the benefits that come with technology including improved financial performance. 23

Al-Smadi and Al-Wabel (2011) carried out a study to examine the impact of ebanking on Jordanian banks performance for the period 2000 - 2010. Accounting data was used to measure banks performance using regression analysis. The results showed that e-banking has a significant negative impact on the banks performance since banks in Jordan depend on traditional channels to carry out their banking operations; hence the costs associated with its adoption are higher than the incremental revenues. The study was conducted in a society where confidence of e-banking is low unlike the Kenyan market where the population has embraced technology. It was therefore important to investigate whether many of the innovations in e-banking adopted in Kenyan microfinance industry has an effect on their performance.

Ombati et al. (2010), tried to establish the relationship between technology and service quality in the banking industry in Kenya. The research was carried through a cross-sectional survey design which questioned respondents on e-banking services. The population of the study mainly constituted customers of banks within the central business district of Nairobi with a sample size of 120. Data was analyzed by use of frequency, percentage, means and correlation analysis. The findings revealed that there is a direct relationship between technology and service quality which can translate to performance of the bank. The different dimensions of offering banking services electronically such as security, efficiency, accurate records, convenience and

accurate transactions are critical in adoption of internet banking hence need to measure the effect of adoption of e-banking on the financial performance.

Karimzadeh et al. (2014) investigated the impact of e-banking on the profitability of a bank in Iran. By using quarterly data over the period of 2004-2012, they found that expansion of e-banking has significant positive association to the profitability, measured in terms of ROA, of the sample bank. Using a sample of 10 banks' data over the period of 2002 to 2012.

Rauf and Qiang (2014) measured the impact of e-banking on the performance of Pakistani commercial banks where the performance was measured in terms of Return on Assets, Return on equity and interest margin. Their empirical investigation revealed that e-banking has significant positive impact on margin, ROA and ROE of the recent adopters whereas for the early adopters significant positive impact on ROE and Margin but findings, they conclude that banks can consider e-banking as a cost saving effective strategy to compete with the domestic and foreign banks given a well-managed monitoring and control over the risks involved in.

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Author	Methodology	Findings
Siam (2006)	Regression analysis	Role of electronic banking service on the profits.
Malhotra and Singh (2009)	Multiple regression analysis	Impact of internet banking on bank performance and risk.
Onay (2009)	ROA,ROE	Impact of internet banking on bank profitability.
Sumra, Manzoor and Abass (2011)	Taking interview from managers of banks and customers.	Impact of e-banking on profitability.
Niuguna et al. (2009)	Taking interview from customers.	Factor that influence adoption of internet banking among the individuals who have accounts with commercial bank.
Gikand and Bloor (2010)	Survey	Adoption and effectiveness of e- banking.
Kingoo (2011)	R0A, descriptive and inferential statistics.	Relationship between e-banking and financial performance of commercial banks.
Okiro and Ndungu (2013)	Survey	Impact of mobile banking and internet banking on financial performance of financial institutions.
Deyoung et al. (2007)	Comparative study	Compare two different waves of adoption of internet banking to find out how the internet can change the performance of banks.
Kegan et al. (2005)	Structural equation model, survey of ten community banks and ROE	Internet banking and performance of community banks examined the impact og online banking application on community bank performance.
Aduda and Kingoo (2012)	Descriptive and inferential statistics.	Relationship between e-banking and performance of banking system.
Muriuki (2009)	Questionnaire administered to each respondent	Factor that affect the adoption of e-banking.
Al-Smadi and Al-Wabel (2011)	Regression analysis	Examine the impact of e-banking on banks.
Ombati et al. (2010)	Frequency, percentage, means and correlation analysis.	Relationship between technology and service quality in the banking industry.
Karimzadeh et al. (2014)	ROA	Impact of e-banking on the profitability of a bank.
Rauf and Qiang (2014)	ROA, ROE and interest margin	Impact of e-banking on the performance of commercial banks.

2.3 Conceptual framework

Conceptual framework is a scheme of concept (variables) which the researchers operationalize in order to achieve the set objective. A variable is a measure characteristic that assumes different values among subject. Independent variables are variable that researcher manipulates in order to determine its effect of influence on another variable. Dependent variable attempts to indicate the total influence arising from the influence of the independent variable (Mugenda, 2003).

An indicator of how profitable a company is relative to its total assets. ROA gives an idea as to how efficient management is at using its assets to generate earnings. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested. This study used three major e-banking tools. Internet banking, mobile banking, Automatic Teller Machine (ATM) as independent variables and financial performance including return on assets (ROA), return on equity (ROE) as dependent variable.

Mobile banking

Mobile banking involves the use of mobile phone for settlement of financial transaction. Mobile banking provide opportunity for financial institutions to extend banking services to new customers thereby increase their market. Mobile banking reduces the cost of handling transactions by reducing the need for customer visit a bank branch for non-cash withdrawal and deposit transaction. Mobile banking users reach 30 lakhs in Nepal and around 40 commercial banks are using mobile banking service. Therefore mobile banking assists to improving the financial performance of the banks (Sapkota, 2018)

Internet banking

The number of banks offering financial services over the internet is increasing rapidly in Nepal. By using transactional websites customers can check account balance, transfer fund, pay/receive bill, and apply for loan without leaving their home or place of business. Internet banking, one of the channels of e-banking, helps bank customers to perform their financial transaction electronically over the internet through their personal computer and laptop at a time convenient to them, without having to be restricted to regular bank operating hours. The widespread availability of internet banking is expected to affect the mixture of financial services and financial performance. Internet banking reduces not only operational cost to the bank but also lead to higher level of customer satisfaction and retention that help to improve the financial performance of the banks (Khatri et al, 2013).

Automated Teller Machine (ATM)

An Automated teller machine (ATM), also known as an automated banking machine (ABM) or cash machine and is a computerized telecommunications device that provides the clients of a financial institution with access to financial transactions in a public space without the assistance of bank's cashier or bank teller. As ATM computer terminal, record-banking system and cash vault in one unit, permitting customers to enter the bank's book keeping system with a plastic card containing a Personal Identification Number (PIN) or by punching a special code number into the computer terminal linked to the bank's computerized records, 24 hours a day (Hossain, Irain, and Saha, 2014).



2.4 Research Gap

Commercial banks assaulted by the pressure of globalization and competition from nonbanking new ways to add value to the services. The question of what drives performance is at the top in understanding superior performance and hence striving for it. This study made on impact of electronic banking on financial performance is a new study and no existing studies made on the topic were found to be reviewed in Nepal. This research tries to fill the gap by analysis and identify the impact of ebanking as a delivery channel on the financial performance of commercial banks in Nepal. In case of Nepal in spite banks trying to enforce the e-banking services Nepal is still faced with come challenges which need to be addressed in order to promote effective and efficient banking performance. However, researchers have not much attention to these challenges of e-banking. This study attempts to fill the gap and to complement previous literature available on electronic banking in Nepal. There is huge gap in knowledge on the impacts of electronic banking on banks' financial performance in Nepal across different people are not aware that the same banks offer convenience through e-banking. This study aimed to not only study and explore the history and progress made over the years but also to report and fill the knowledge gap among Nepalese bank account holders and researchers. This research also provides recommendations to improve on electronic banking services in the country.

CHAPTER III

RESEARCH METHODOLOGY

This chapter deals with the procedures that were used in conducting the study. It sets out the various stages and phases that were followed in completing the study. It identifies the procedures and techniques that were used in the collection, processing and analysis of data. The following sub sections were included; research design, target population, sample design, data collection and data analysis.

3.1 Research Design

Research design is the plan, structure and strategy of investigation conceived to obtain answer to research question and to control variance (Kerlinger, 1980:275). The plan is overall scheme or program of the research. A research design expresses both the structure of the research design problem and plan of investigation used to obtain evidence or relations of the problems.

Research design can be defined as a plan used for data collection and utilization in order to obtain desired information with accuracy or for a researcher to test their hypothesis sufficiently. This particular research used several methods to make sure that the information was accurate and comprehensive (Wetherbe, 2012).

To conduct the study, two types of approach have been adopted-Descriptive and analytical. Descriptive approach has been utilized mainly for conceptualization of problem. Analytical approach is used to find out the result employing financial as well as statistical tools. So, the study emphasis on descriptive and analytical research designs.

3.2 Population and Sample

The population of the study is 4525 employees under commercial bank in Nepal till 2017/18 involving four commercial bank i.e. Himalayan bank ltd, Everest bank ltd, NIC ASIA bank ltd and Nepal Investment bank ltd. Employees are 835, 748, 1755, 1187 respectively. To cover the sample size each bank 20 employees from four commercial banks. Purposive sampling method has been used in this study.

3.3 Sources of the Data

Both primary as well as secondary data have been collected in order to achieve the real and factual result out of this research. All possible and useful data available have been collected. The major sources of data are as follows:

a. Primary Source

The primary data are collected from primary sources. The primary sources of data are the opinion survey through questionnaire, field visit and information received from the respondents.

b. Secondary Source

Secondary data are collected from secondary sources. The secondary sources of data are the information received from books, journal and article concerned with the study, banks annual reports and their websites.

3.4 Data Analysis Tools and Techniques

This study utilized both primary and secondary techniques. Primary data that was used included personal interviews with respondents as well as questionnaires. Secondary data that was utilized included bank's websites and published annual reports of sampling banks. The data collected was processed and analyzed using SPSS. This involved data coding, editing and tabulation especially quantitative data. The purpose of all these is to make the information clear and understandable for other people. Different quantitative methods of statistical tools have been used for driving essence of the research data and interpret them in meaningful way.

3.4.1 Correlation Analysis

A correlation coefficient is a statistical measure of the degree to which changes to the value of the one variable predict change to the value of another. Karl person's measure, known as Karl person correlation coefficient between two variable series x (x, y) r can be obtained as:

$$\mathbf{r} = \frac{n \sum xy - \sum x \cdot \sum y}{\sqrt{n \sum x^2 - (\sum x)^2} \sqrt{n \sum y^2 - (\sum y)^2}}$$

Where,

R= correlation coefficient n = no. of year

 $\sum X = \text{Sum of series X}$ $\sum y = \text{Sum of series Y}$ $\sum XY = \text{Sum of the product X and}$ $(\sum x)^2 = \text{Sum of squares of series X}$ $(\sum y)^2 = \text{Sum of squares of series Y}$

The correlation coefficient can take a range of values from +1 to -1. Positive correlation coefficient means that if one variable increases, the other variable also increases, so they tend to move in the same direction. Negative correlation coefficient means that if one variable increases, other variable decreases, and vice-versa. When correlation coefficient is close to zero variables have no linear relationship.

3.4.2 Multiple Regression Analysis

Regression analysis is a set of statistical processes for estimating the relationships among variables. It includes many techniques for modeling and analyzing several variables, when the focus on the relationship between a dependent variable and one or more independent variables (or 'predictors'). More specifically, regression analysis helps one understand how the typical value of the dependent variable (or 'criterion variable') changes when any one of the independent variables is varied, while the other independent variables are held fixed. This study the main objective of estimating impact the value of dependent variable (ROA and ROE) from the value of multiple independent variables (mobile banking, internet banking, ATM).

Regression equation of Y (profitability) on MB, IB and ATM

Model 1

It has used to test the relationship between independent variables and ROA:

ROA=a+b1 MB+b2 IB+b3 ATM+....ei Eqn. 1

Model 2

It has used to test the relationship between independent variable and ROE: ROE=a+b1 MB+b2 IB+b3 ATM+.....ei Eqn.2

CHAPTER: IV

RESULTS

This chapter presents the data analysis results, interpretation of the results and discussion. Data analysis was done using SPSS with the main analysis tools being descriptive statistics, correlation analysis and multiple regression analysis. This research aimed at finding out the effect of electronic banking on the financial performance of banks in Nepal.

4.1 Profile of the Respondent

4.1.1 Gender of the respondent

Table 4.1 shows gender of the respondents

Table 4.1: Gender of the respondents

Gender	Frequency	Percent
Male	40	50
Female	40	50
Total	80	100

Source: Primary Data, 2018

From table 4.1 show that, 50% were female while 50% were males. This shows that respondents were male equal to female. This was confirmed by the responses from the questionnaires filled where males were equal to females.

4.1.2 Age structure of the respondent

Table below shows age structures of the respondents.

Age group	Frequency	Percent
15-19	1	1.3
20-24	8	10.0
25-29	24	30.0
30-34	28	35.0
35-39	14	17.5
40 and above	5	6.3
Total	80	100.0

Table 4.2: Age structure of the respondents

Source: Primary Data, 2018

From table 4.2 shows that, 1.3% of the respondents were between 15-19, 8% were between 20-24, 24% were between 25-29, 28% were between 30-34, 14% were between 35-39 and 5% above 40 years. This implies that there was fair representation of the population as almost all classes were represented and the data provided reflected the views of the entire population and the majority of the respondents are matured which means they can give a matured view.

4.1.3 Educational level of the respondents

Table 4.3 shows educational level of the respondents

Table 4.3: Educational level of the respondents

Educational Status	Frequency	Percent
+2	1	1.3
Bachelor	20	25.0
Master	58	72.5
Above masters	1	1.3
Total	80	100.0

Source: Primary data, 2018

From table 4.3 shows that, 1.3% of the respondents were +2, 25% was Bachelor, 72.5% was masters and 1.3% above masters. This implies that the respondents are educated which means could read, understand and interpret questionnaires reliably. The data collected was believed to be reliable and was thus processed to present finding.

4.1.4 Experience level of the respondents

Table 4.4 shows experience of the respondents

Table 4.4: Experience level of the respondents

Experience	Frequency	Percent
0-4	38	47.5
5-9	23	28.8
10-14	17	21.3
15 and above	2	2.5
Total	80	100.0

Source: Primary Data, 2018

From table 4.4 shows that 2.5% of the respondents had served in Bank of Nepal for period of 15 years and above, 21.3% between 10-14 years, 28.8% between 5-9 years and 47.5% for a period between 0-4 years. This implies that almost all respondents had taken reasonably enough time in service and thus the data they provided was believed to be reliable.

4.2 Electronic Banking Tools used by bank of Nepal

Method of service	Ye	S	Total		
	Frequency	Percent	Frequency	Percent	
ATM/debit service	76	95	80	100	
Use of internet banking	72	90	80	100	
Mobile banking service	70	87.5	80	100	
Email notification service	42	52.5	80	100	

4.5: Different types/method used in electronic payment by bank

Table 4.5 shows the method of electronic payment in bank, 95% respondents says the bank used electronic payment through ATM/debit cards, 90% internet banking, 87.5% mobile banking and 52.5% email notification services. This implies that Nepalese commercial bank used electronic payment in different ways ranging from ATM/debit card, internet banking, mobile banking and email notification service. This is good sign of services delivery to customers and improves the bank performance.

4.3 Scale for the assessing the application of electronic banking in bank

Application of	Strongl	у	Disagre	Disagree		Neither		Agree		Strongly		Total	
electronic	disagre	e				agree nor		agree					
banking					disagree								
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	
Mobile banking	4	5	6	7.5	11	13.8	34	42.5	25	31.3	80	100	
Internet banking	4	5	4	5.0	14	17.5	36	45.0	22	27.5	80	100	
ATM/debit card	4	5	5	6.3	10	12.5	33	41.3	28	35.0	80	100	

Table 4.6 Application of electronic banking

The table 4.6 shows the perceptions of respondents on scale for the assessing the application of electronic banking in and their responses were as follows.

Presentation on mobile banking shows that 42.5% agree or 31.3% strongly agreed that mobile banking is used by clients of bank of Nepal. This means that mobile banking is one of the e-banking services commonly used by clients of the bank as it is unanimously accepted by the respondents. Mobile banking services covered under this product include account enquiry, fund transfer, and recharge phones, changing of passwords and bills payment. Therefore it provides convenience in banking.

Presentation on internet banking shows that 45% agree or 27.5% strongly agreed that internet banking also used by clients of bank. By using transactional websites customers can check account balance, transfer fund, pay/receive bill, and apply for loan without leaving their home or place of business.

Presentation on ATM/debit card shows that 41.3% agree or 35% strongly agreed that ATM/debit card is used by clients of the bank. ATM/debit card is used for deposit and withdrawals from bank.

Therefore clear data above that ATM/debit card is the most common electronic services amongst the banks in the study.

4.4 Impact on financial performance

The respondents were asked whether electronic banking has had a positive, negative or no impact on the financial performance of the bank. Their responses were as in the table bellows.

Impact of electronic	Frequency	Percent
banking		
Positive	78	79.5
Negative	0	0
No impact	2	2.5
Total	80	100

Table 4.7: Impact on financial performance

The above table shows that 97.5% of the respondents were in agreement that electronic banking has a positive impact on financial performance of the respective banks while 2.5% of the respondents thought it had a no impact on financial performance of bank. 0% of the respondents indicated that electronic banking had negative impact. From the above finding it is clear that we can conclude that electronic banking has had a positive impact on the financial performance of Nepalese banks.

4.5 electronic banking promote banking performance

Promote of electronic	Frequency	Percent
banking		
Strongly agree	34	42.5
Agree	45	56.3
Neither agree nor disagree	1	1.3
Disagree	0	0
Strongly disagree	0	0
Total	80	100.0

Table 4.8: Electronic banking promote banks performance

The above table shows that 42.5% of the respondents are strongly agreed that electronic banking promote banking performance and 56.3% agree, 1.3% neither

agree nor disagree. From the above finding it is clear that we can conclude that electronic banking promote the financial performance of Nepalese banks.

4.6 contribution of electronic banking on performance of bank

Table 4.9 shows respondents views on contribution of electronic banking on performance of banks.

Performance measures of	Strong	jly	Di	sagr	Neit	her	Agre	ee	Stro	ngly	Tota	.1
bank	disagre	ee	ee		agre	e nor			agre	e		
					disa	gree						
	N	%	N	%	N	%	N	%	N	%	N	%
Increased profit	5	6.3	4	5.0	15	18.8	40	50	16	20	80	100
Reduced cost	3	3.8	7	8.8	18	22.5	40	50	12	15	80	100
Customer satisfaction	3	3.8	2	2.5	6	7.5	53	66.3	16	20	80	100
Improved management												
quality	2	2.5	3	3.8	17	21.3	47	58.8	11	13.8	80	100
Increased banks assets	4	5.0	3	3.8	22	27.5	38	47.5	13	16.3	80	100

Table 4.9: contribution of electronic banking on performance of bank

The table 4.9 shows the perceptions of respondents on the contribution of electronic banking on performance of bank.

The respondents (50%) agreed that bank profit has been increased. 50% respondents are also agreed that electronic banking contribute to reduced cost. Customer's satisfaction presentation indicates that the respondents (66.3%) agreed that customers were satisfied with the bank service. This means that electronic banking plays a pivotal role in giving satisfaction to the customer due to the electronic banking fills the gap between the expected and perceived service quality. The respondents (58.8%) agreed that the management quality of bank good. And 47.5% respondents are agreed that bank assets increased. Therefore use of e-banking can contribute to improved bank performance, in term of increased profit, reduced cost, customer satisfaction, improved management quality and increased banks assets.

4.7 Challenges of Electronic Banking in Bank

The respondents were asked to indicate the challenges they face in service delivery by using electronic banking. Their responses were recorded in the table below:

Challenges	Y	es	l	No	Total		
	Count	Percent	Count	Percent	Count	Percent	
Trust issues	24	30.0	56	70.0	80	100	
Customer ignorance	47	58.8	33	41.3	80	100	
Navigation difficulty	27	33.8	53	66.3	80	100	
Costly service delivery	18	22.5	62	77.5	80	100	

Table 4.10: Challenges of electronic banking in Nepalese banks.

The finding indicated in table 4.10 shows that Nepalese banks face various challenges when executing their duty and dealing with customers. 30% of the respondents highlighted trust issues while 58.8% indicated ignorance on the part of the customers. 33.8% indicated difficulties in navigation and 22.5% showed costly service delivery. Therefore it can be concluded that customer ignorance is the biggest challenge affecting electronic banking and its services delivery. The reason for this is that most of the customers are not well educated especially on the matters technology hence the resistance and fear.

4.8 Relationship between E-banking Channels and Financial Performance

The study sought to test the relationship between e-banking channels and the financial performance. This was done through correlation and regression analysis. A Pearson correlation was run to establish how the variables were related to each other. Table 4.11 shows the correlation results of the study on the variables.

Table 4.11 Correlation analysis

	ROA	ROE	Mobile	Internet	ATM
			banking	banking	
ROA Pearson	1	.845	082	.367	.129
Correlation					
Sig. (2-tailed)		.000	.704	.078	.548
N	24	24	24	24	24
ROE Pearson	.845**	1	174	.400	.097
Correlation					
Sig. (2-tailed)			.417	.053	.653
Ν	.000	24	24	24	24
	24				

**. Correlation is significant at the 0.01 level (2-tailed).

According to the correlation, the range of the output is between -1 to 1. A positive value indicates that the variables are positively related while a negative value indicates that the variables are negatively related.

The table 4.11 is giving the relationship between E-banking and performance of bank whereby the respondents N is 24 and the significant level is 0.01, the results indicate that mobile banking is negatively related with ROA at 0.704 level of significance (2-tailed), internet banking is positively related (0.367), ATM and ROA are positively correlated (0.129). Similarly, mobile banking and ROE are negatively correlated (-0.174), internet banking and ROE are positively correlated (0.400), ATM and ROE also positively related (0.097).

This indicated that no one of the e-banking channels had a positive correlation with performance of the bank. E-banking channels had negative correlations with ROA and ROE.

4.9 Multiple Regression Analysis

Regression analysis model was applied in determining the relationship between the dependent variables of the bank probability (ROA and ROE) and independent variables such as mobile banking, internet banking and ATM/debit card.

Under the following regression output the beta coefficient may be negative or positive; beta indicates that each variable's level of influence on the dependent variable. P-value or significance value indicates at what percentage or precession level of each variable is significant. R^2 values indicate the explanatory power of the model and in this study adjusted R^2 value, which takes into account the loss of degrees of freedom, associated with adding extra variables were inferred to see the explanatory of the models.

Empirical model:

As present in the third chapter the empirical model used in the study in order to identify the factors that can affect financial performance of the Nepalese banks was provided as follows:

Model 1

It has used to test the relationship between independent variables and ROA.

ROA= a+b1 MB+B2 IB+b3 ATM+.....ei

Table 4.12 Model summary of regression analysis on ROA

Model	R	R Square	Adjusted R Square	Std.	Error	of	the
				Estim	ate		
1	.396	.157	.031	.3459	7		

a. Predictors: (Constant), ATM, Mobile banking, Internet banking
From table 4.12 the R-squared statistics and the adjusted-R squared statistics of the model was 15.7% and 3.1% respectively. The result indicates that the changes in the independent variables explain 3.1% of the changes in the dependent variable. That is mobile banking, internet banking, ATM explain 3.1% of the changes in ROA. The remaining 96.9% of the changes was explained by other factors, which are not included in the model. Thus

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variables collectively, are not good explanatory variables of the profitability of commercial banks in Nepal in term of ROA.

Model	Sum of	Df	Mean	F	Sig.
	Squares		Squares		
1 Regression	.446	3	.149	1.243	.320 ^a
Residual	2.394	20	.120		
Total	2.840	23			

a. Predictors: (Constant), ATM, Mobile banking, Internet banking

b. Dependent Variable: ROA

Regression result in table 4.13 indicates that the independent variables are statistically significant in predicting the profits or affecting the profits of the banks. The study established a significant value of p=0.320 showing a statistical insignificance relationship.

Table 4.14 Regression	results of ROA on	Mobile banking,	Internet banking, ATM
\mathcal{O}		\mathcal{O}^{\prime}	\mathcal{O}

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	В	Std. Error	Beta		
1 (Constant)	1.776	.409		4.341	.000
Mobile banking	-4.82E-07	.000	150	714	.483
Internet banking ATM	5.009E-06	.000	.403	1.751	.095
	001	.006	022	098	.923

a. Dependent Variable: ROA

Regression results in table 4.14 indicate that there is a positive relationship between return on assets and internet banking as indicates by the beta coefficients of 0.403. Mobile banking and ATM have a negative relationship of -0.150 and -0.022. So, all bank-specific in independent variables expect internet banking has statistically significant impact on ROA. On the other hand, between the two independent variables

used in this study, No one variable has significant impact on profitability of Nepalese commercial banks in term of ROA. The result implies the coefficients of the regression. According to the findings, mobile banking (p=0.483), internet banking (p=0.095), ATM (p=0.923) were all no significant in predicting the profits of the banks since all the p values were more than 0.005. Since a low value indicates, high significance of the variable and high value indicates no any significance of the variable.

Model 2

It has used to test the relationship between independent variables and ROE:

ROE= a+b1 MB+b2 IB+b3 ATM+.....ei

Model	R	R Square	Adjusted R Square	Std.	Error	of	the
				Estim	ate		
1	.476 ^a	.226	.110	4.459	20		

Table 4.15 Model summary of regression analysis on ROE

a. Predictors (Constant), ATM, Mobile banking, Internet banking

From table 4.15 the R-Squared statistics and the adjusted-R squared statistics of the model was 22.6% and 11% respectively. The result indicates that the changes in the independent variables explain 11% of changes in the dependent variable. That is mobile banking, internet banking, ATM explain 11% of the changes in ROE. The remaining 89% of the changes was explained by other factors, which are not included in the model.

Table 4.16 Analysis of variable

	Model	Sum of	df	Mean	F	Sig.
		Squares		Square		
1	Regression	116.337	3	38.779	1.950	.154 ^a
	Residual	397.690	20	19.884		
	Total	514.027	23			

a. Predictors: (Constant), ATM, Mobile banking, Internet banking

b. Dependent Variable: ROE

The model predicting the effect of e-banking on financial performance had a regression value of (116.337), while residual value of (397.690). The F-test, F (3, 20) =1.950. The study established a significant value of p=0.154>0.05 showing a statistical insignificance relationship.

Table 4.17 Regression result ROE on Mobile banking, Internet banking, ATM

Model		Unstandardized		Standardized		
		Coefficients		Coefficients	Т	Sig.
		В	Std.	Beta		
			Error			
1	(Constant)	21.028	5.273		3.988	.001
	Mobile banking	-1.064E-05	.000	246	-1.224	.235
	Internet banking	7.940E-05	.000	.475	2.153	.044
	ATM	024	.075	069	315	.756

a. Dependent Variable: ROE

According to the finding shows in table 4.17, among the e-banking channels independent variables, only internet banking had statistically significant impact on ROE. On the other hand, between the two independent variables used in this study, no one variable has significant impact on financial performance of Nepalese commercial banks.

Result shows that the correlation between dependent variables and independent variables. Based on the results shows mobile banking (p=0.235>0.05), internet banking (p=0.044<0.05), ATM (p=0.756>0.05) were two independent variable (mobile banking and ATM) no significant in predicting the profit of the banks. Since two variables the p values were more than 0.05 and only internet banking had significant in predicting the profits of the banks. Since internet banking p value were less than 0.05.

4.10 Major Findings

Research in electronic banking, following finding are computed:

1. The view of most of the respondents that Nepalese commercial banks providing their services by use the various electronic channels (i.e. Mobile banking, Internet banking, ATM, Telephone banking, Point of Service and branchless banking services). Most of customers are using the ATM card services from banks.

- 2. According to the most of the respondents, Nepalese commercial bank face the many challenges (i.e. trust issues, customer ignorance, costly service delivery, security problem and lack of customer knowledge etc.) to use electronic facility. Lack of customer knowledge is the major challenges for commercial bank in Nepal.
- Mobile banking and ATM/debit card affect negatively and insignificantly on the financial performance of commercial banks in term of ROA and ROE. Internet banking has positively and significantly on the profitability of the banks.
- 4. Electronic channels (Mobile banking, Internet banking, ATM) have a statistically insignificant correlation with the financial performance of the banks.

CHAPTER: V

SUMMARY, CONCLUSION AND CONCLUSION

This chapter provides the study summary, conclusions and recommendation based on the research study objective.

5.1 Summary

E-banking has changed the financial and banking industry in terms of the nature of key products and services and in the form of manner in which these products are package, delivered and consumed by customer. Internet channel has rapidly gained popularity in almost all developed countries and many developing countries. The internet allows business to use information more effectively, by allowing customers, suppliers, employee and partners to get access to the business information they need, when they need it. These internet enabled service all translate to reduced cost: There are less overhead, greater economic of scale, and increased efficiency. Presently, banks have sophisticated electronic system to handle day by day transaction and some real time electronic platform. Gradually, banks develop their services in Nepal according to requirement of customers and to competed market so today customer can transact via non cash element: like Internet banking, Credit card, ATM card and SMS banking.

Today, commercial bank provided many electronic services to their customers like Mobile banking, ATM, cash withdraw, account balance, bank statement, bill payment, cash deposit, SMS banking, internet banking, telephone banking, point of sales, transfer between banks and remittance etc. this study only focus on three element (Mobile banking, Internet banking and ATM card).

This study examine the Mobile banking effect on the financial performance of commercial bank in Nepal; examine the Internet banking effect on the financial performance of the bank and determine the ATM impact on the financial performance of the bank by using correlation and multiple regression analysis.

In this research, randomly sampling method was adopted by utilizing data collected from four Nepalese commercial banks. The impact of electronic banking on the financial performance of Nepalese commercial banks was analyzed by using panel data from four commercial bank that have adopted electronic banking between 2012/13 and 2017/18. Both primary and secondary data were used for analysis. Primary data are collected from questionnaire and secondary data are collected from banks annual report and their website for six year period.

Electronic banking challenges are measured on the basis of internet capacity and its application in banking sectors by analytical research design. Financial performance of these banks was measured in the term of ROA and ROE. To determine the impact the electronic banking on financial performance of banks by used correlation coefficient and regression analysis between dependent and independent variables. And appropriate frequency tables were also used.

5.2 Conclusion

Presentation on shows that the commercial banks had different electronic banking types namely ATM which one of the E-banking service commonly used by electronic banking by customer of bank. Others are internet banking, mobile banking, credit card, branchless banking, points on sales and telephone banking etc. in general it can be concluded that commercial bank have varieties of electronic banking services for their customer in order to provide effective and efficient service delivery. This different electronic banking promotes effectiveness and efficient service delivery since client can be able to withdraw, deposit money, bill payment and check account balance etc.

Challenges hindering implementation of electronic banking system in bank are ranking from network reliability meaning that there is a network problem as a result customers face challenges to use e-banking facilities. Internet coverage is also a problem because some location and customer do not have internet facility. Some customers also have skill on how to operate the e-banking equipment and this pose threat on performance of the bank. And lastly there is also security issues as system can be accessed by hackers and this poses threat to both customers and bank inform of losses confidentially of clients information. Customer ignorance is major challenges for Nepalese commercial banks as seen in table 4.10.

All the electronic channels independent variable internet banking had statistically positive impact on ROA. On other hand, among the two e-banking channels (mobile banking and ATM card) independent variables used in this study, no one variable has significant impact on ROA of Nepalese commercial bank. Moreover, among the e-

banking channels independent variables, only internet banking had statistically significant impact on ROE. On the other hand, among the two e-banking channels independent variables used in this study, no one variable has significant impact on profitability of Nepalese commercial banks in terms of ROE.

The result shows that R-Squared statistics and the adjusted R-Squared statistics of the model was 15.7% and 3.1% respectively. The results indicate that mobile banking, internet banking and ATM card explain 3.1% of change in ROA. The remaining 96.9% of the changes was explained by other factors which are not included in this model. Moreover, R- squared statistics and the adjusted- R Squared statistics of the model was 22.6% and 11% respectively. The result indicated that mobile banking, internet banking and ATM card explain 11% of the change in ROE. The remaining 89% of the changes was explained by other factors.

The table 4.9 shows the perception of respondents on the contribution of electronic banking on performance of bank. Customer is satisfaction presentation indicates that the respondents (66.3%) agreed the customers were satisfied with the bank services this mean electronic banking play a pivotal role in giving satisfaction to the customer due to the electronic banking fills the gap between the expected and perceived service quality.

Finally, the study concludes that ATM and Mobile banking has not impact on financial performance of banks. Only Internet banking has a very small impact on the financial performance of the commercial banks in Nepal in term of return on assets (ROA) and return on equity (ROE).

5.3 Implications

In spite of the limitations under which the study has been carried out it has been able to meet the objective of the study. On the basis of the study made following implications are made.

1. ATM should be out in different locations easily accessible by customers, so that quick service and convenience is maintained hence improving bank operations. At the same time constantly serviced should be ensured in order to provide reliability of the services.

2. Nepalese banks should invest more on electronic banking so as to reach more customers electronically.

3. The banks have to train their staff on electronic banking to sell various products to customers.

4. Nepalese banks must ensure that their e-banking facilities are protected against external threats like cyber-crime.

5. Customers' awareness regarding e-banking should be considered while lunching electronic banking instrument.

•

Appendix I

Questionnaire for respondents

Dear sir/madam,

I am M.B.S student of Tribhuwan University, Central Department of Management, Kirtipur and a conducting a study on "e-banking and its impact on financial performance in Nepalese commercial bank". These questions pertain to your experience about on issue. Your answer will be kept strictly confidential and will only be used for this research purpose.

Section A

Demographic status

- 1. Your Designation:
- 2. Age :

6.

3. Gender:

Male	
Female	
Other	

- 4. Year of experience :
- 5. Marital status :

Married	
Unmarried	
Education :	
SLC	
+2	
Bachelor	
Master	
Above master	

Section B

- 1. How many branches does this bank in Nepal?
 - a. () 1-10
 - b. () 10-20
 - c. () more than 20
- 2. When was e-banking first introduced in this bank?

.....

- 3. Please indicate the range of service offered by the bank?
 - a. () mobile/SMS banking.
 - b. () internet banking.
 - c. () ATM banking.
 - d. () electronic fund transfer. Any other please specify.....
- 4. What challenges has the bank faced with the adoption of e-banking?(specified your obervations).

- 5. How has e-banking impacted on the financial performance of this bank?
 - a. () positively.
 - b. () negatively.
 - c. () no impact.
- 6. Annual profits of banks contribute by e-banking service.
 - a. () Below 10%
 - b. () 11-20%
 - c. () 21-30%
 - d. () 31-40%
 - e. () 41-50%
 - f. () Above 50%
- 7. What are the challenges faced so far in relation to service delivery?
 - a. () trust issues.
 - b. () customer ignorance.
 - c. () navigation difficulty.
 - d. () costly service delivery. Other....
- 8. What are the factors affecting the effectiveness of electronic banking?
 - a. Availability of internet.
 - b. Reliability of network.
 - c. Availability and reliability of ATM.
 - d. Security problems.

- e. Lack of customer knowledge.
- f. Any other (specify).....
- 9. Does electronic banking promote banking performance?
 - a. () Strongly agree
 - b. () Agree
 - c. () Neither agree nor disagree
 - d. () Disagree
 - e. () Strongly disagree

10. How was the performance of the bank for the last from 2015 to 2018?

- a. () Excellent
- b. () Very good
- c. () Fair
- d. () Bad

11. What are the different types/method used in electronic payment by bank?

- a. () ATM/debit cards services.
- b. () Use of internet banking.
- c. () Mobile banking service.
- d. () Email notification services.

Any other (specify)

i. ii.

12. What of the above question no.11 mentioned tools are mostly used by banking?

.....

13. Do you electronic bank has promoted performance of the bank in following ways. Definition of the scale for assessing how electronic banking has promoted performance of the bank. (1= strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree)

Performance measures	1	2	3	4	5
a. Increased profit					
b. Reduced cost					
c. Customer satisfaction					
d. Improved management quality					
e. Increased banks assets					

14. Definition of the scale for the assessing the application of electronic mobile banking in bank (1= strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree)

Application of electronic banking	1	2	3	4	5
a. Mobile banking					
b. Internet banking					
c. Electronic card					

15. When did your bank start operation e-banking platforms?

- a. () less than one year
- b. () 1 to 2 year
- c. () 5 year
- d. () more than years

16. Overall, how satisfied have you been with e-banking system?

- a. () 100%
- b. () 80%
- c. () 50%
- d. () 30%
- e. () 10%

17. Which banking activities do you use e-banking service for? (select all that apply)

- a. () cash withdraw
- b. () account balance
- c. () bank statement
- d. () bill payment
- e. () cash deposit
- f. () transfer between bank

18. What percentage of your customers using e-banking service provided by you?

- a. 0-20%
- b. 21-40%
- c. 41-60%
- d. 61-80%
- e. 81-100%

19. Does e-banking provides more reach and frequency than traditional banking?

- a. Yes
- b. No

20. Did e-banking done well according to you expectations?

a. Yes
b. No

21.	Does e-banking helps you to retain your customer and helps into discover new customer?
22.	If you have any observation related with e-banking, specify bellow:
	······

Thank you

APPENDIX II

SN	Year	Name of Bank	ROA	ROE	Mobile Banking	Internet Banking	АТМ
1	2011/2012	Himalayan	1.76	20.69	.00	1663.00	70.00
2	2012/2013	Himalayan	1.54	17.80	.00	2466.00	70.00
3	2013/2014	Himalayan	1.30	15.76	.00	1563.00	78.00
4	2014/2015	Himalayan	1.34	18.82	.00	1561.00	80.00
5	2015/2016	Himalayan	1.94	21.94	.00	1561.00	84.00
6	2016/2017	Himalayan	2.03	18.61	.00	2018.00	93.00
7	2011/2012	Investment	1.60	20.10	3500.00	49000.00	68.00
8	2012/2013	Investment	2.60	31.70	7000.00	55000.00	72.00
9	2013/2014	Investment	2.30	27.60	11000.00	62000.00	77.00
10	2014/2015	Investment	1.90	24.80	19000.00	70000.00	82.00
11	2015/2016	Investment	2.00	26.00	30000.00	77000.00	82.00
12	2016/2017	Investment	2.10	19.10	43000.00	88000.00	98.00
13	2011/2012	Everest	2.11	26.63	43694.00	2142.00	61.00
14	2012/2013	Everest	2.39	26.70	61172.00	4325.00	67.00
15	2013/2014	Everest	2.25	24.75	85641.00	11452.00	74.00
16	2014/2015	Everest	1.85	20.57	119898.00	18866.00	80.00

17	2015/2016	Everest	1.61	18.31	167857.00	25383.00	87.00
18	2016/2017	Everest	1.72	17.71	235000.00	35000.00	90.00
19	2011/2012	NIC AISA	1.64	19.00	13126.00	2258.00	35.00
20	2012/2013	NIC AISA	1.78	14.63	13126.00	2258.00	48.00
21	2013/2014	NIC AISA	1.71	15.93	10579.00	2478.00	61.00
22	2014/2015	NIC AISA	1.21	13.05	21386.00	5950.00	68.00
23	2015/2016	NIC AISA	1.51	16.50	50994.00	13808.00	69.00
24	2016/2017	NIC AISA	1.64	16.84	492814.00	43775.00	74.00

Appendix III

Correlations

				Mahila	Internet	
		ROA	ROF	hanking	banking	АТМ
ROA	Pearson Correlation	1	845**	- 082	367	129
	Sig. (2-tailed)		.000	.704	.078	.548
	N	24	24	24	24	24
ROE	Pearson Correlation	.845**	1	174	.400	.097
	Sig. (2-tailed)	.000		.417	.053	.653
	Ν	24	24	24	24	24
Mobile banking	Pearson Correlation	082	174	1	.179	.178
	Sig. (2-tailed)	.704	.417		.403	.406
	Ν	24	24	24	24	24
Internet banking	Pearson Correlation	.367	.400	.179	1	.442*
	Sig. (2-tailed)	.078	.053	.403		.031
	Ν	24	24	24	24	24
ATM	Pearson Correlation	.129	.097	.178	.442*	1
	Sig. (2-tailed)	.548	.653	.406	.031	
	Ν	24	24	24	24	24

Correlations

**. Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Regression

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
1	ATM, Mobile banking, Internet _a banking		Enter

a. All requested variables entered.

b. Dependent Variable: ROA

Model Summary

							Change Stati	stics	
			Adjusted	Std. Error of	R Square				
Model	R	R Square	R Square	the Estimate	Change	F Change	df 1	df 2	Sig. F Change
1	.396 ^a	.157	.031	.34597	.157	1.243	3	20	.320

a. Predictors: (Constant), ATM, Mobile banking, Internet banking

AN OV Ab

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.446	3	.149	1.243	.320 ^a
	Residual	2.394	20	.120		
	Total	2.840	23			

a. Predictors: (Constant), ATM, Mobile banking, Internet banking

b. Dependent Variable: ROA

Coeffi ci ents^a

		Unstandardized Coefficients		Standardized Coefficients		
Model		В	St.d. Error	Beta	t	Sig.
1	(Constant)	1.776	.409		4.341	.000
	Mobile banking	-4.82E-07	.000	150	714	.483
	Internet banking	5.009E-06	.000	.403	1.751	.095
	ATM	001	.006	022	098	.923

a. Dependent Variable: ROA

Regression

Variables Entered/Removed*

Model	Variables Entered	Variables Removed	Method
1	ATM, Mobile banking, Internet _a banking		Enter

a. All requested variables entered.

b. Dependent Variable: ROE

Model Summary

							Change Statis	stics	
			Adjusted	Std. Error of	R Square				
Model	R	R Square	R Square	the Estimate	Change	F Change	df 1	df 2	Sig. F Change
1	.476 ^a	.226	.110	4.45920	.226	1.950	3	20	.154

a. Predictors: (Constant), ATM, Mobile banking, Internet banking

AN OV A^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	116.337	3	38.779	1.950	.154 ^a
	Residual	397.690	20	19.884		
	Total	514.027	23			

a. Predictors: (Constant), ATM, Mobile banking, Internet banking

b. Dependent Variable: ROE

Coefficients^a

		Unstandardized Coe	Standardized Coefficients			
Model		В	Std. Error	Beta	t	Sig.
1	(Constant)	21.028	5.273		3.988	.001
	Mobile banking	-1.064E-05	.000	246	-1.224	.235
	Internet banking	7.940E-05	.000	.475	2.153	.044
	ATM	024	.075	069	315	.756

a. Dependent Variable: ROE

Appendix IV

Name of bank

		Frequency	Percent	Valid Percent	Cumulativ e Percent
Valid	Investment	20	25.0	25.0	25.0
	Ev erest	20	25.0	25.0	50.0
	NIC ASIA	20	25.0	25.0	75.0
	Himalay an	20	25.0	25.0	100.0
	Total	80	100.0	100.0	

					Cumulativ e
		Frequency	Percent	Valid Percent	Percent
Valid	Assistant	19	23.8	23.8	23.8
	Assistant Service Executive	2	2.5	2.5	26.3
	Branch Manager	4	5.0	5.0	31.3
	Contract	4	5.0	5.0	36.3
	HR Manager	1	1.3	1.3	37.5
	Junior Assistant	9	11.3	11.3	48.8
	Junior Officer	1	1.3	1.3	50.0
	KYC Taskforce	1	1.3	1.3	51.3
	Manager	1	1.3	1.3	52.5
	Relation Manager	5	6.3	6.3	58.8
	Senior Assistant	3	3.8	3.8	62.5
	Senior Of ficer	7	8.8	8.8	71.3
	Service manager(Supervisor)	1	1.3	1.3	72.5
	Superv isor	14	17.5	17.5	90.0
	Teller	2	2.5	2.5	92.5
	Officer	6	7.5	7.5	100.0
	Total	80	100.0	100.0	

		Frequency	Percent	Valid Percent	Cumulativ e Percent
Valid	15-19	1	1.3	1.3	1.3
	20-24	8	10.0	10.0	11.3
	25-29	24	30.0	30.0	41.3
	30-34	28	35.0	35.0	76.3
	35-39	14	17.5	17.5	93.8
	40-44	5	6.3	6.3	100.0
	Total	80	100.0	100.0	

Agegroup

Designation

Gender

		Frequency	Percent	Valid Percent	Cumulativ e Percent
Valid	Male	40	50.0	50.0	50.0
	Female	40	50.0	50.0	100.0
	Total	80	100.0	100.0	

Years of experience

		Frequency	Percent	Valid Percent	Cumulativ e Percent
Valid	0-4	38	47.5	47.5	47.5
Vana	50	50	47.0	47.5	77.5
	5-9	23	28.8	28.8	76.3
	10-14	17	21.3	21.3	97.5
	15-19	2	2.5	2.5	100.0
	Total	80	100.0	100.0	

Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	50	62.5	62 F	F 01001R
valiu	Mameu	50	02.5	02.5	02.5
	Unmarried	30	37.5	37.5	100.0
	Total	80	100.0	100.0	

Education

					Cumulativ e
		Frequency	Percent	Valid Percent	Percent
Valid	+2	1	1.3	1.3	1.3
	Bachelor	20	25.0	25.0	26.3
	Masters	58	72.5	72.5	98.8
	Abov e masters	1	1.3	1.3	100.0
	Total	80	100.0	100.0	

Branches of bank in Nepal

		Frequency	Percent	Valid Percent	Cumulativ e Percent
Valid	1-10	1	1.3	1.3	1.3
	More than 20	79	98.8	98.8	100.0
	Total	80	100.0	100.0	

	Υe	es	N	0	To	tal
	Count	%	Count	%	Count	%
Mobile/SMS banking	79	98.8	1	1.3	80	100.0
Internet banking	79	98.8	1	1.3	80	100.0
ATM banking	79	98.8	1	1.3	80	100.0
Electronic f und transf er	68	85.0	12	15.0	80	100.0

E-banking impacted on the financial performance of this bank

		Frequency	Percent	Valid Percent	Cumulativ e Percent
Valid	Positively	78	97.5	97.5	97.5
	No impact	2	2.5	2.5	100.0
	Total	80	100.0	100.0	

Annual profits of banks contribute by e-banking service (percent)

		F	Damast		Cumulativ e
		Frequency	Percent	Valid Percent	Percent
Valid	Below 10	45	56.3	56.3	56.3
	11-20	15	18.8	18.8	75.0
	21-30	6	7.5	7.5	82.5
	31-40	3	3.8	3.8	86.3
	41-50	6	7.5	7.5	93.8
	Abov e 50	5	6.3	6.3	100.0
	Total	80	100.0	100.0	

	Ye	es	N	0	To	tal
	Count	%	Count	%	Count	%
Trust issues	24	30.0	56	70.0	80	100.0
Customer ignorance	47	58.8	33	41.3	80	100.0
Navigation difficulty	27	33.8	53	66.3	80	100.0
Costly service delivery	18	22.5	62	77.5	80	100.0

	Yes		N	0	Total	
	Count	%	Count	%	Count	%
Av ailability of internet	31	38.8	49	61.3	80	100.0
Reliability of network	33	41.3	47	58.8	80	100.0
Availability and reliability of ATM	15	18.8	65	81.3	80	100.0
Security problems	28	35.0	52	65.0	80	100.0
Lack of customer knowledge	63	78.8	17	21.3	80	100.0
Others	1	1.3	79	98.8	80	100.0

Electronic banking promote banking performance

		Frequency	Percent	Valid Percent	Cumulativ e Percent
Valid	Strongly agree	34	42.5	42.5	42.5
	Agree	45	56.3	56.3	98.8
	Neither agree nor disagree	1	1.3	1.3	100.0
	Total	80	100.0	100.0	

Performance of the bank for the last from 2015 to 2018

		Frequency	Percent	Valid Percent	Cumulativ e Percent
Valid	Excellent	35	43.8	43.8	43.8
	Very good	41	51.3	51.3	95.0
	Fair	4	5.0	5.0	100.0
	Total	80	100.0	100.0	

	Yes		N	0	Total	
	Count	%	Count	%	Count	%
ATM/debit cards services	72	90.0	8	10.0	80	100.0
Use of internet banking	73	91.3	7	8.8	80	100.0
Mobile banking service.	70	87.5	10	12.5	80	100.0
Email notification services.	42	52.5	38	47.5	80	100.0

	Stro disa	ngly Igree	Disa	agree	Neither a disa	agree nor gree	Agi	ree	Strong	y agree	То	tal
	Cou nt	%	Count	%	Count	%	Count	%	Count	%	Count	%
Increased profit	5	6.3	4	5.0	15	18.8	40	50.0	16	20.0	80	100.0
Reduced cost	3	3.8	7	8.8	18	22.5	40	50.0	12	15.0	80	100.0
Customer satisfication	3	3.8	2	2.5	6	7.5	53	66.3	16	20.0	80	100.0
Improv ed management qualit y	2	2.5	3	3.8	17	21.3	47	58.8	11	13.8	80	100.0
Increased banks assets	4	5.0	3	3.8	22	27.5	38	47.5	13	16.3	80	100.0

	Strongly	disagree	DIsa	gree	Neither a disa	agree nor gree	Agi	ree	Strongly	/ agree	Tot	al
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Mobile Banking	4	5.0	6	7.5	11	13.8	34	42.5	25	31.3	80	100.0
Internet Bankin	4	5.0	4	5.0	14	17.5	36	45.0	22	27.5	80	100.0
Electronic card	4	5.0	5	6.3	10	12.5	33	41.3	28	35.0	80	100.0

Bank start operation e-banking platforms (when)

		Frequency	Percent	Valid Percent	Cumulativ e Percent
Valid	Less than one year	1	1.3	1.3	1.3
	1 to 2 years	3	3.8	3.8	5.0
	5 years	9	11.3	11.3	16.3
	More than years	67	83.8	83.8	100.0
	Total	80	100.0	100.0	

Satisfication percent with e-banking system

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	100 %	10	23.8	23.8	23.8
valia	100 /0	15	20.0	20.0	20.0
	80 %	41	51.3	51.3	75.0
	50 %	16	20.0	20.0	95.0
	30 %	3	3.8	3.8	98.8
	10 %	1	1.3	1.3	100.0
	Total	80	100.0	100.0	

	Υe	es	N	0	Total	
	Count	%	Count	%	Count	%
Cash withdraw	34	42.5	46	57.5	80	100.0
Account balance	64	80.0	16	20.0	80	100.0
Bank statement	58	72.5	22	27.5	80	100.0
Bill payement	67	83.8	13	16.3	80	100.0
Cash deposit	11	13.8	69	86.3	80	100.0
Transfer between bank	42	52.5	38	47.5	80	100.0

Percentage of customers using e-banking service provided by bank

		Frequency	Percent	Valid Percent	Cumulativ e Percent
Valid	0-20 %	15	18.8	18.8	18.8
	21-40 %	17	21.3	21.3	40.0
	41-60 %	27	33.8	33.8	73.8
	61-80 %	17	21.3	21.3	95.0
	81-100 %	3	3.8	3.8	98.8
	13.00	1	1.3	1.3	100.0
	Total	80	100.0	100.0	

:-banking provides more reach and frequency than traditional banking

		Frequency	Percent	Valid Percent	Cumulativ e Percent
Valid	Yes	75	93.8	93.8	93.8
	No	5	6.3	6.3	100.0
	Total	80	100.0	100.0	

E-banking done well according to expectations

		Frequency	Percent	Valid Percent	Cumulativ e
		Trequency	Tercent	valiu i ercent	Telceni
Valid	Yes	64	80.0	80.0	80.0
	No	16	20.0	20.0	100.0
	Total	80	100.0	100.0	

E-banking helps to retain customer and helps into discover new customer

					Cumulativ e
		Frequency	Percent	Valid Percent	Percent
Valid	Yes	80	100.0	100.0	100.0

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