CHAPTER-I
INTRODUCTION

1.1 Background of Study

In the world information technology growth rapidly and change day to day .Similarly financial institution and banking sectors rapidly expansion of online banking service and production. Also people wants and desires are changing rapidly. This rapidly changing wants and desires create opportunities for the service provider organization. Banking and financial institution try to convert such opportunities into competitive advantage through provide quality service. Another side customer satisfaction impact various service qualities factors like efficiency and ease to use, security, communication etc.

Electronic banking is the use of electronic delivery channels for banking products and services, and is a subset of electronic finance. The most important electronic delivery channels are the Internet banking, Automated Teller Machines (ATMs), and Mobile banking. Electronic banking services are offered in two main ways. Either traditional brick and mortar banks combine traditional and electronic delivery channels (brick and click banks) or banks offer their products and services only- or predominantly through electronic distribution channels without having a branch network (Hyde, 2015).

Continuously, banking and financial institution have been developing own operation system for making useful according to technology change. Day to day changing the technology system, banking and financial sectors have developed different systems and devices for carry banking transaction quickly, easily and firstly. In the developing country like America, China, where customers possess a varied form of wants and desires it becomes legal for the banks and service providers to offer quality product and service faster and efficiency to meet the customer's desires and wants.

Another side, customeralways tries to match own expectation from the service, it's already existing attributes in his mind. If the service quality is better than own expectation, customer will fully satisfied. Service quality main aims are to serve the customers in a better way. Service providers obtain and fulfill the customer

expectation. Customer will be satisfy in this condition company create competitive advantage. As the customer use the service those compares it with the attributes which already exists in his mind. This comparison is basically the measurement of service quality.

Electronic banking is an umbrella term for the process of performing banking transactions electronically without visiting a physical location. Personal computer (PC) banking, internet banking, virtual banking, online banking, home banking, remote electronic banking, and phone banking are all terms that refer to some form of electronic banking. The most commonly used terms are PC Banking and internet or online banking. However, it should be noted that the terms used to describe the various types of electronic banking are frequently used interchangeably. (Keivani, Jouzbarkand, Khodadadi, &Sourkouhi, 2001).

Customer satisfaction is a vague, nebulous, and perplexing idea. The level of a client's happiness and delight with the goods and services a company offers is referred to as customer satisfaction. In other words, a person experiences satisfaction when a product or service meets his or her expectations and performs as promised. Thus, satisfaction is a result of both perceived performance and relative level of expectations. Real product and service quality and performance in relation to customer expectations are key factors in determining customer satisfaction with a purchase. If the actual performance of the product or service falls short of expectations, the customer may experience varying degrees of satisfaction. The customer's alternative selections may also influence the degree of satisfaction. (Saxena, 2017)

1.1.1 Nepal's modern banking history

With the founding of Nepal Bank Ltd., modern banking in Nepal got its start. On Kartik 30, 1994, His Majesty King Tribhuvan officially opened Nepal Bank Ltd. (November 15, 1937). The nation of Nepal's first bank, Nepal Bank Ltd., was established as a joint venture between the public and private sectors; it served as the nation's sole financial institution until Nepal Rastra Bank was established in 2013 (1956 AD).

RastriyaBanijya Bank Ltd, was established on Magh 10, 2022 (January 22, 1966) under the RastriyaBanijiya Bank Ltd Act 2021. Also government established Agriculture Development Bank on Magh 7, 2024 for develop Nepalese agriculture Sectors.

Joint ventures are entering the Nepalese market since the liberalization policy was adopted. In 2041 B.S., Nepal Arab Bank, currently known as Nabil Bank, was founded (1984A.D.). It is Nepal's first joint venture bank.

The banks and financial institutions in Nepal's banking sector are currently categorized as A, B, C, and D. The number of banks and financial institutions (BFIs) has been steadily declining since the implementation of the statute. By the time Poush ended, 129 fewer BFIs were present.

1.1.2 E-banking history of Nepalese

Digital Banking is a very infancy phenomenon in Nepal. Today age of modern e-banking start in Nepal, Nabil Bank Ltd firstly introducing credit cards in the early 1990s. In 1995 Himalayan Bank Ltd introduced ATM and Nepali Credit Card in Nepalese market. Similarly Kumari Bank Ltd introduced E-banking (internet banking) in 2002. Likewise, Laxmi Bank Ltd introduced SMS Banking (mobile banking) service for the first in 2004.

1.2 Problem Statement

Banking and Financial institution have develop various product and service since the change technology and develop internet. Bank and Financial Institution provide many online service for fulfill customer satisfaction and desires. In the late 1960s automatic teller machine (ATM) is first electronic banking in the world. In the world internet banking possible for customers do business in the world any part. In this way banksgreatly increase potential client base. E-banking very fast develops over the world.

In the Nepalese context, Bank and financial institution develop lot of e-banking service and product but customer not widely adopted. Another point similarly bank and financial institution investing lot of amount in this sectors but institution not

achieve great success. This may be lack of trust and e-banking service quality and perceived risk towards the service.

Electronic banking is providingfacilities to the customer instead of a bank teller, so customer is not face to face interactwith bank and financial institutions. In the world developing country e-banking service very fast, quick and very qualitative. So in the world developing country customer very seek for any additional service. In The Nepalese context customers do not seek any additional service or help on by pro-actively contacting the bank. On the other hand, there are Customer's complains on the issues with security and accuracy. At this situation, researcher needs to analyze satisfaction and experience of customers toward e-banking services. Further, the role played by demographic factors such as gender, age, occupation, income and education in adoption of e-banking are to be analyzed. Further, we also need to analyze the risks, limitations and problems in using e-banking.

In the Nepalese context financial sector is rapidly growth; e-banking is still in the early development stage. Banking and financial sectors are investing lot of money on the e-banking technology but they are not been successful in e-banking activities. This situation create may be due to lack of e-banking service quality. In this context, this study has been examined into the following problems:

i. What dimensions of E-Banking service quality effect customer satisfaction and in what way?
ii. Is there any relationship between E-Banking service quality and customer Satisfaction?

1.3 Objective of the Study

The basic objective of this study will appraise in the relationship between E-Banking service quality and customer satisfaction Nepalese commercial banks. Thus, the major objectives will as follow:

i. To examine the important dimensions that affects the quality of E-Banking services for customer satisfaction.

ii. To analyze the relationship between E-Banking service quality and customer satisfaction.

1.4 Research Hypothesis

The primary hypothesis of this study is that there is a significant and positive relationship between customer satisfaction with E-Banking and the service quality of E-Banking. This primary hypothesis was divided into four testable hypotheses that were related to the four independent variables taken into account, as follows:

H_1: The efficiency of E-Banking services positively affects customer satisfaction.

H_2: The reliability of E-Banking services positively affects customer satisfaction.

H_3: The security and privacy of E-Banking services positively affects customer satisfaction.

H_4: The responsiveness and communication in E-Banking service positively affects customer satisfaction

1.5 Significance of the Study

This research paper is of great importance especially for banking industry in Nepal. With knowing the awareness and satisfaction of internet enables the bankers to cope the problems of customers and ultimately helps to customize their e-banking products and services to cater their needs. Further, this research paper also provides guidelines to the policy makers to e-banking policy, rule and regulation. This study may be advantage for the academic institutions and persons who might be interested in carrying out related researches in the future.

The study stresses that there are variables associated with e-banking and those variables have huge impact upon level of customer satisfaction. Customer satisfaction with regard to any services offered greatly exceeds the expectations of customer, and then satisfaction will be elevated. So, through this study, various factors that affects customer satisfaction while using e-banking service has been identified.

Thus, this study assists to the banking professional to know the customer's awareness and satisfaction toward e-banking ultimately helps to increase the accessibility of

financial services of customers creating awareness through workshop and seminar on the importance and business value of e-banking.

1.6 Limitations of the Study

During the research process time and money are the major challenges. Due to the time, money factors, the research process was done through online excluding paper questionnaires.

Nepal is developing country and there are now some areas in Nepal where internet has not been access. So the survey mostly carried out in the city area. The main limitation of the study will be follows;

i. The study is in the context of Nepalese commercial banks only which may fail to represent the actual scenario of the whole industry.
ii. The accuracy of the analysis depends upon the data provided by the customers.
iii. This study prepared on the basis of sampling so the result may not free from bias.
iv. It is especially based on the primary data by using structured questionnaires.
v. This study was conducted mainly in Kathmandu Valley.
vi. In this study only sample of 384 respondents is taken which may not be sufficient for this study.
vii. These studies only focus on banking sectors e-banking service quality.

The above explained limitations ware carefully analyzed and studied during the research process in order to give reliability and validity outcome. The explained limitations are also kept in mind during research process time, so that it could not exceed the time for responses.

1.7 Organization of the Study

The study has divided into five chapters .They are an introduction, literature review, research methodology, presentation and analysis of data and summary, conclusion and recommendation.

Chapter I: Introduction

This chapter deals with introduction which includes background of the study, statement of the problem, objectives of the study, significance of the study, limitation of the study and organization of the study.

Chapter II: Literature Review

The second chapter presents review of previous related research done on service quality,e-banking and customer satisfaction, review of related books, journals, articles and previous unpublished master level dissertation etc.

Chapter III: Research Methodology

The study's research technique is described in the third chapter. It included the following topics: research design, population and sampling, various methods and sources of data gathering, tools and techniques for data analysis, and validity and dependability.

Chapter IV: Data Presentation and Analysis

Fourth chapter is Data presentation and analysis. This chapter includes Data presentation, Data analysis and Major finding of the study.

Chapter V: Summary, Conclusion and Recommendation

Ultimately, fifth chapter discusses summary of main findings, recommendations and suggestions further these includes reference books, magazines, newspaper, previous dissertation, etc. are shown under bibliography.

CHAPTER-II
LITERATURE REVIEW

The review of related literature is an important and essential for guideline of study. It helps to the researcher to get more information, ideas and identifying what people already have been done? In addition, what we have to find out and tested? "It eliminates the duplication of what has been done and provides useful hypothesis and helpful suggestions for significant investigation" (Best and Kahn, 2012). Therefore, for selecting research design, sample, tools, data collection procedure, analyzing data and making decision, it gives instruction and makes a reliable research.

2.1 Conceptual Review

2.1.1 E. Banking

The procedure through which a customer can conduct banking transactions electronically without going to a physical location is referred to as electronic banking. Personal computer (PC) banking, Internet banking, virtual banking, online banking, home banking, remote electronic banking, and phone banking are all words that refer to one type of electronic banking or another. The most popular terms are PC banking and Internet or online banking. The words used to describe the various forms of electronic banking are frequently used interchangeably, it should be highlighted.

Electronic banking as an “internet portal, by which customers can use different kinds of banking services ranging from bill payment to making investments”. One part of cash withdrawals, e-banking service gives customers access to different sorts of banking transaction just only one click. In fact the bank and financial institution provide lot of option for achieve competitive advantage. E-banking, to put it simply, refers to the delivery of banking goods and services via electronic means. The use of telephone transactions and automated teller machines (ATMs) for electronic banking has been around for a while. The internet, a new delivery method that has streamlined banking transactions for both users and institutions, has revolutionized it more recently (Pikkarainen,2004). One part of cash withdrawals, e-banking service gives customers access to different sorts of banking transaction just only one click. In fact the bank and financial institution provide lot of option for achieve competitive advantage.

“Electronic banking is a driving force that is changing the landscape of the banking industry fundamentally, in particular, towards a more competitive industry. Electronic banking has blurred the boundaries between different financial institution, enabled new financial products and services, and services, and made existing financial services available in different package”(Agbada,2008).

2.1.2 Service Quality

In order to improve business performance, a service provider must be able to efficiently satisfy customers. This is referred to as service quality. Quality is crucial for corporate success in the service sector as well. It's because people have realized how profitable, market-share-boosting, and customer-satisfying it is. The quality notion in the service sector is distinct from the concept that is common in the products sectors, according to a number of previous studies and researchers. Inherent characteristics of services, such as inseparability, intangibility from the provider, heterogeneity, etc., are the reasons for such a therapy. As a result, there is a separate framework for valuing and measuring quality (Ramya, Kowsaly, &Dharanipriya, 2019)

The ability of an organization to establish a competitive advantage and become more competitive has been identified as a vital success component. Due to the high level of client pleasure it delivers, service quality is especially important in the context of financial services, where it becomes a key to competitive advantage (Mohamud, 2017).

2.1.3 Customer Satisfaction

Customer satisfaction is a measurement of how happy (or unhappy) customers are with a company's products, services or experience. Customer satisfaction consists of a customer's perceived quality, value and expectations of your company and what you offer. This data can reveal major insights into how customers relate to your brand and how they will interact with your brand in the future.

Customer satisfaction can be defined as a marketing term that measures how products or services supplied by a company meet or surpass a customer’s expectation. According to J. Willard Marriott, the founder of Marriott corporation, ‘’Customer

needs may vary, but their bias for quality never does’’. Customer satisfaction can be used as a metric to manage and improve the businesses and hence it is very important for the marketers and business. It can also be defined as "the number of customers or percentage of total customers, whose reported experience with a firm, its products, or its services (ratings) exceeds specified satisfaction goals".

2.1.4 Electronic Banking Service Quality and Customer Satisfaction

E-service quality entails an encompassing valuation and judgment by customers as regards the importance and quality of e-service delivery (Santos, 2003). Wang, Lo, and Hui (2003) opined that endurance in today’s competitive banking environment depends on the provision of topnotch service and products to customers. Satisfaction has a deep connection with service quality. It is therefore imperative for the online banks to make customer’s perception about the quality of online banking services’ their International Journal of Economics, Commerce and Management, United Kingdom Licensed under Creative Common Page 307 concern, that way, it is remotely easier for the customer to evaluate the advantages of rival services (Santos, 2003). Researchers have validated that providing quality service to customers would make them remain loyal to an organization, as well as attract the attention of new ones, boost corporate image and guarantee endurance and profitability of an organization (Negi, &Ladhari, 2009).

Husain and Akhtar (2016) posited that a customer’s satisfaction is the provider of absolute gains of a quality uprising, which is first dependent on customer’s satisfaction of overall service quality. It is therefore important to take note of how customer’s refer service quality and how it will impact their satisfaction level, and by this banking and financial institution can promote the fissure in service quality provide in demand to take remedial actions to improve their activities.

Parasuraman, Zeithaml, and Berry (1985) developed a model called SERVQUAL used in evaluating service quality on the basis of study on four service sectors; retail banking, credit card services, repair and maintenance of electrical appliances, and long-distance telephone services. The model originally consisted of ten dimensions which were reduced to five as some of them were coinciding. These dimensions include; reliability, responsiveness, assurance, tangibles, and empathy. SERVQUAL

model refer to the apt scale to measure service quality in different sectors and industries. Factors of the model fit to particular service and product in order to guarantee dependable and valid results (Ladhari, 2009). In the banking sector all the factors have been deemed vital in identify service quality (Omodele&Onyeiwu, 2019).

2.2 Theoretical Review

2.2.1 Service Quality

SERVQUAL Model:Researcher A. Parasuraman, Valarie Zeithaml, and Leonard L. Berry created the made in 1985 to assess and promote quality in the service and retail industries. The SERVRQUAL model is a framework for assessing and measuring service quality and client satisfaction based on five criteria: dependability, responsiveness, assurance, tangible, and empathy.

The SERVQUAL model assists in analyzing the discrepancy between what businesses and institutions feel they are providing for consumers and what those customers actually anticipate, want, demand, or need while receiving customer service.

The SERVQUAL model was created before the advent of the internet, yet it is still useful today. Perception management is more crucial than ever, given that customers may now share their ideas with a large and captive audience via the internet.

The SERVQUAL model was created before the advent of the internet, yet it is still useful today. Customer feedback is now shared online with a large and captive audience, making perception management more crucial than ever.

Nordic Model: Nordic model is based on disconfirmation paradigm by comparing perceived service performance and expected service. This was the first attempt to analysis service quality. Nordic model prefer three component models. Models suggest three components are service product (i.e., technical quality), service delivery (i.e. functional quality), and service environment.

Hierarchical model: Brady and Cronin developed new model by combining four models in 2001. They improved SERVQUAL (Parasuraman, et al., 1988) by specifying what needed to be reliable, responsive, empathic, assured and tangible. A

new model conceptualized by this hierarchical model and SERVQUAL factors specified into sub dimensions. Brady and Cronin have improved service quality framework and solved the stalemate in this theory. It defines service quality perception and a clear form of service quality measurement. In SERVQUAL measurement, service outcome were not clearly considered, but Brady and Cronin's model seems to fill this void (Pollack, 2009).

2.2.2 Customer Satisfaction

The Evaluative Congruity Theory: According to Sirgy's (1984) Evaluative Congruity Model (or the Social Cognition Model), satisfaction is a function of evaluative congruity, which is a cognitive matching process in which a perception is compared to evoked referent cognition in order to evaluate a stimulus or action. The result of this cognitive process is assumed to produce either a motivational or an emotional state. Customer satisfaction/ dissatisfaction is regarded as an emotional state because it prompts the consumer to evaluate alternative course of action to reduce an existing dissatisfaction state and /or obtain a future satisfaction state (Sirgy, 1984). This model argues that there are three congruity states; negative incongruity, congruity, and positive incongruity. Similar to the confirmation/disconfirmation concept, negative incongruity is a cognitive state that results from a negative discrepancy between the valence levels of a perception and an evoked referent cognition, which induces dissatisfaction. Congruity is a cognitive state that leads to a non-significant or negligible discrepancy between a perception and an evoked referent cognition, which results in a neutral evaluation state or a satisfaction state. Finally, positive incongruity-state results from a positive discrepancy between a perception and an evoked referent cognition, which generates satisfaction. Unlike the EDP, Sirgy's model views the customer satisfaction/dissatisfaction as a function of one or more congruities between perceptual and evoked referent states and states that the occurrence of multiple comparison processes could explain consumer satisfaction better. More specifically, the original Evaluative Congruity Model assumes that satisfaction may be determined by one or more cognitive congruities, such as between (1) new product performance after usage and expected product performance before use, (2) new product performance after use and old product performance before use, (3) expected product performance after purchase and ideal product performance

before purchase, (4) expected product performance after purchase and deserved product performance after use. Such discrepancies are argued to independently influence consumer's overall satisfaction with a given product (Sirgy, 1984).

The Comparison Level Theory : "A number of authors criticized the Expectancy-Disconfirmation paradigm on the grounds that this approach posits that the primary determinant of customer satisfaction is the predictive expectations created by manufacturers, company reports, or unspecified sources" (Yi, 1990). For instance, La Tour & Peat (1979) argued "that the EDP ignores other sources of expectations, such as the consumer's past experience and other consumer's experience with similar constructs. They proposed a modification of the Comparison Level Theory" (Thibaut& Kelley, 1959). In contrast to the Expectancy-Disconfirmation paradigm which uses predictive or situationally-produced expectations as the comparison standard, the Comparison Level Theory argues that there are more than one basic determinants of comparison level for a product: (1) consumers' prior experiences with similar products, (2) situationally produced expectations (those created through advertising and promotional efforts), and (3) the experience of other consumers who serve as referent persons.

The Value Percept Theory: Similar to LaTour and Peat's argument, Westbrook and Reilly (1983) argue that "the Expectancy-Disconfirmation paradigm may not be the most appropriate model to explain customer satisfaction, as customer satisfaction/dissatisfaction is more likely to be determined by comparative standards other than expectations." They proposed a Value-Percept Disparity theory, originally formulated by Locke (1967), "as an alternative to the Expectation-Disconfirmation paradigm. Criticizing the predictive expectations used as a comparison standard in the traditional Disconfirmation paradigm, Westbrook and Reilly argue that what is expected from a product may or may not correspond to what is desired or valuedin a product. Conversely, that which is valued may or may not correspond to what is expected." Thus, values have been proposed to be a better comparative standard as opposed to expectations in explaining customer satisfaction/dissatisfaction. According to the value-percept theory, satisfaction is an emotional response that is triggered by a cognitive evaluative process in which the perceptions of an offer are compared to one's values, needs, wants or desires (Westbrook & Reilly, 1983). Similar to the

Expectancy/Disconfirmation paradigm, a growing disparity between one's perceptions and one's values (value-perception) indicates an increasing level of dissatisfaction.

In their study, Westbrook and Reilly compared the expectation-confirmation model with the value-percept disparity model. The value-disparity was defined as the extent to which the product provides the features and performance characteristics needed or desired. The disparity was assessed on a single differential scale anchored with "provides far less than my needs" and "provides exactly what I need". In contrast to their hypothesis, which states that values, as opposed to expectations, determine satisfaction, Westbrook and Reilly found that the disconfirmation of expectations had a stronger effect on satisfaction than the disparity between value and perceptions. They suggested that both constructs (expectations and values) were needed in explaining customer satisfaction, as they found neither the expectation-disconfirmation model nor the value percept model was sufficient on its own. Similarly, results of recent studies investigating the ability of value and expectations in determining satisfaction demonstrate that it might be better to integrate desires and expectations into a single framework, as they are both affecting consumer satisfaction (Spreng*et al* 1996). The Value-Percept theory which postulates satisfaction as the fulfillment of consumer desires, values, or wants, as opposed to their expectations, has not received as much support from researchers as the EDP did in ascertaining customer satisfaction with hospitality and tourism services.

2.3 Empirical Review

The review of empirical literature gives an evidence-based and factual analysis of related works done in the country or outside and in the same area of study or related.

Hammoud, Bizri and Baba (2018) analyzed the impact of E-banking service quality on customer satisfaction: evidence from theLebnese Banking Sector. This study main purpose was to examine the relationship between the dimensions of e-banking service quality and customer satisfaction to determine which dimension can potentially have the highest and positive influence on customer satisfaction. Data was gathered using a survey instrument, which is distributed with banking customer in the Lebnese banking sector. The data was statistically analyzed using structural equation modeling with SPSS and Amos (20). The study shows that all dimensions have a significant impact

on customer satisfaction, with reliability being the dimension with the strongest impact. E-banking has become one of the essential banking services that can, if properly implemented, increase customer satisfaction, and give banks an competitive advantage. Knowing the relative importance of service quality dimensions can help the banking institution focus on what satisfies customers the most.

Rita a, Oliveira and Farisa, (2019) purposed of this study is to develop new knowledge to better understand the most important dimensions of e-service quality that have impact on customer satisfaction, customer trust, and customer behavior, building on existing literature on e-service quality in online shopping. This study focuses on the four-dimensions of e-service quality model that better predict customer behavior. It not only tests the impact of customer satisfaction on customer behavior such as repurchase intention, word of mouth, and site revisit, but also the impact of customer trust. The result is expected to extend the knowledge about different country culture vis-a-vis different relevance of e-service quality attributes. Data from an online survey of 355 Indonesian online consumers was used to test the research model using structural equation modeling. The analytical results showed that three dimensions of eservice quality, namely website design, security/privacy and fulfillment affect overall e-service quality. Meanwhile, customer service is not significantly related to overall e-service quality. Overall e-service quality is statistically significantly related to customer behavior. Future research should consider a variety of product segments and/or other industries to make sure that the measurement works equally well. In other industry setting, the measurement may need to be adjusted. Future research could also use different methodologies such as focus group and interviews.

Omodele and Onyeiwu, (2019) critically examined“the impact of electronic banking service on customer satisfaction.” The study specifically probed on the various dimensions of electronic banking service quality. Also on the relationship between customer satisfaction and the various electronic banking service quality dimensions. A descriptive survey research design was adopted. The sample size was 93 respondents. The main research instrument used was questionnaire. Data collected were analyzed using descriptive statistic followed by Pearson correlation, and regression analysis to test the hypotheses. The findings revealed that there is a significant relationship between customer satisfaction and the various electronic banking service quality dimensions and electronic banking service quality has

significant impact on customer satisfaction. Hence, the study concluded that banks have and still are putting in massive investments into electronic banking infrastructure and as such customer satisfaction is turning into one of the most crucial factor for the success of electronic banking service meaning that the generation of positive customer value on the electronic banking requires the establishment and maintenance of longstanding customer relationship. The study therefore recommended that banks should improve on their e-banking products relentlessly, upgrade their channels (such as ATM, MPOS and POS) and enhance their software application (such as online application, e-mobile application).

Saxena (2017)“Literature Review on Customer Satisfaction.” In current years academic and corporate interest in customer satisfaction has risen considerably. This can be seen by the number of papers publish in the relate field. To explored the field further, the main purpose of this paper is twofold. First, it offers a literature review on customer satisfaction taking various papers was published into account. Second, it offers a conceptual framework to summarize the research in this field comprising three parts. As starting point related triggers are identified. This allows putting forward three distinct strategies; customer satisfaction to create loyalty, impact of service quality on customer satisfaction and customer satisfaction and price tolerance. Concept of value addition trough innovation to create satisfaction is also covered by author. Author has examined the body of relevant conceptual and empirical works in top management outlets, as well as specialty outlets. It was found that there is widespread consensus among satisfaction related literature that satisfaction is an evaluative judgment and several comparison standards have been proposed in the literature but no consensus exists concerning which standard best predicts customer satisfaction. Both practitioners in companies and academics might find the review useful, as it outlines major lines of research in the field. Further, it discusses specific features of customer satisfaction and develops a new model, this should stimulate further research.

Mohamud (2017) analyzed “the interrelationship between service quality, electronic banking and customer satisfaction in the commercial banks in Uganda.” The main objective of this study was to find the Interrelationship between Service Quality, Electronic Banking and Customer Satisfaction in Commercial Banks in Uganda. A review of literature was conducted to find out the relationship among Service Quality, Electronic Banking and Customer Satisfaction. This association is supported by the

literature review. To gather information, a survey was run. 210 commercial banking clients made up the sample, which was collected from several Ugandan banks. The findings indicate a positive association between Electronic Banking Adoption and Customer Satisfaction, Service Quality and Customer Satisfaction, and a favorable relationship between Service Quality and Electronic Banking Adoption. In light of the findings, a number of recommendations were made regarding how retail banks might improve customer satisfaction by utilizing electronic banking channels. A customer's service expectations are exceeded by the actual service they receive as a result of the adoption of electronic banking. Thus, the clients were experiencing greater customer satisfaction.

Rashidi and Mansoori (2017) discussed“the effects of internet banking on customer satisfaction.” The present research is aimed at investigating the effect of internet banking on customer satisfaction in Melli bank branches of West Azerbaijan's southern cities. In terms of purpose, the present research is an applicable study and in terms of nature, it's regarded as a descriptive paper performed through a survey method. In this research, the entire users and customers of Internet banking services of Melli banks of southern cities of Western Azerbaijan province are considered and the criterion for this are customers who have activated their Melli card's internet services password. The entire customers of Melli bank internet services of southern cities of West Azerbaijan province count as 34250 individuals. According the Morgan formula, the sample size was determined as 380 individuals. For the purpose of data collection, the questionnaire of Asif (2013) is implemented. Also for determining the validity of questionnaires, suggestions of some of Management professors were also incorporated. For determining the reliability of questionnaires, the Cronbach's alpha was used which was calculated as 0.86 and this, shows that the questionnaires were sufficiently and desirably reliable. For the purpose of data analyses, the t-test and variance analysis tests were used. For determining the relation between the effects of Internet banking on customer satisfaction, the Pearson's correlation coefficient is employed. Results of research indicated that there is a significant meaningful relation between Internet banking and customer satisfaction. Also the results of research indicated that there is a significant relation between demographic variables (age, career, educational degree and gender) and satisfaction from internet banking services.

Altobishi, Erboz and SzilárdPodruzsik(2018) evaluated “E-banking effects on customer satisfaction: the survey on clients in Jordan banking sector.” In general, the managers in financial organizations and institutions are willing to maintain customer satisfaction, in order to minimize their cost and strengthen their competitive advantage.InJordan, most of the commercial banks offer their banking services electronically. Therefore, this research aims to investigate the effects of electronic banking services on customer satisfaction in the lights of survey questions asked to 175 clients in Jordan. The reviewed literature indicates that convenience, privacy, cost, ease of use, personalization and customization and security are six indicators that affect level of customer satisfaction with E-Banking. The survey questions conducted in these six indicators and statistical results shows a positive relationship between level of customer satisfaction and usage of E-Banking among customers. There is positive relationship between five indicators and level of customer satisfaction and usage of E-Banking. Only Privacy is not discovered to have an effect on Customer Satisfaction in Jordan.

Bhosale&Nalawade (2012) identified “that E- banking is the main provision of banking services through electronic channels and customer can easily use it without any geographical limitation.” The new technology creates huge competition in the market but the changing market conditions demands to better understand the consumers need. This paper was considered the advantages and disadvantages of E-banking.

Narayana&Paramashivaiah (2013) studied take into “the consideration the overall satisfaction level of customer using internet banking services.” The studywas explored relationship between customer satisfaction and services quality of the bank the main aim of study was to investigate the factors that influence the level of satisfaction of online customer in Nepal. The used tool of this study was regression analysis.

Kaur&Kiran (2014) also found that “customers show preference for electronic banking platforms relative to branch banking because they often convenience and reduced manpower costs. Technology adoption reduces the manpower needs of business organizations.

Singh (2018) the examination paper was centered on to distinguish the elements that are the boundaries for the use of web banking administrations and furthermore to

contemplate the impression of client about web banking. The investigation distinguish the nine components for example cost, unwavering quality, handling boundaries, security issues, innovative incontinence, absence of foundation, regular methodology, hazard and opposition, which never the hindrances in the utilization of Internet Banking administrations in the semi-urban regions.

2.4 Conceptual Framework

A conceptual framework is an analytical tool with several variations and contexts. It can be applied in different categories of work where an overall picture is needed. It is used to make conceptual distinctions and organize ideas. For the purpose of understanding the impact of Electronic Banking service quality on customer satisfaction in Nepalese commercial banks, the researcher proposes following conceptual framework. This conceptual framework was developed based on several previous studies relating to Electronic Banking, customer satisfactions; service quality and banking application are especially considered.

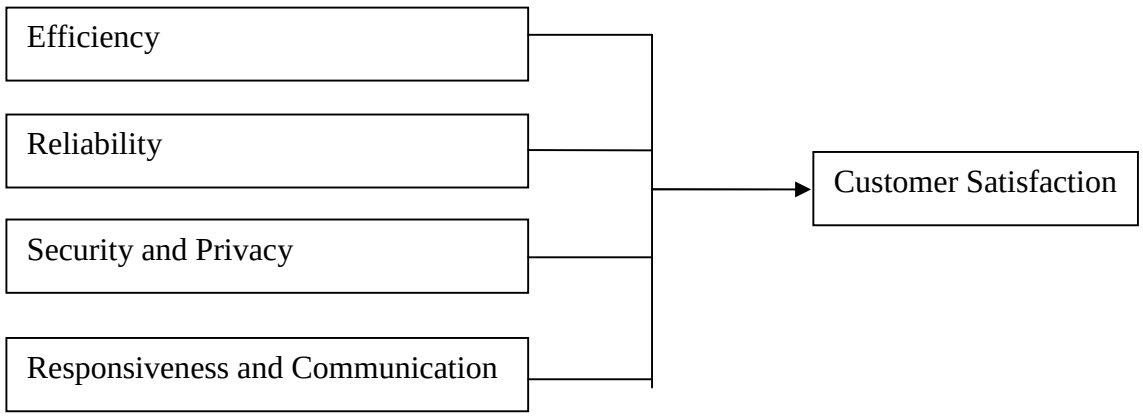

Figure 2.1 Conceptual Framework

The conceptual framework shows a relationship between the independent variables and dependent variable used in this research identify the effect of customer satisfaction on e-banking service quality.

Dependent Variables

The value of dependent variable is derived from the value of other variables. Hammoud, Bizri1, & Baba (2018)dependent variable is the one on which the

researcher have primary interest. The researcher tries to predict, describe or explain its variability. Customer Satisfaction is dependent variable for the current study.

Independent Variables

Hammoud, Bizri1, & Baba (2018)independent variable is the one which influences the dependent variables in either positive or negative way. In the study independent variables are efficiency, reliability, security and privacy, responsiveness and communication.

Efficiency and ease of use: Technologies enable both customers and employees to be more effective in getting and providing services. During self–service technologies customers can serve themselves more effectively (Wilson et al., 2016). Customer satisfaction determines the e-banking performing speed according to Parasuraman, Zeithaml and Berry (1995). Efficiency is rapid speedy service also to put by Wirtz and Bateson (1995) and Khadem and Mousavi (2013).

Reliability:The dimension of reliability is largely concerned with the service outcome. Customers view reliability as the service “core”, and they tend to have higher expectations for it.Liao and Cheung (2002) also find one of the qualities that clients emphasize the most when evaluating the quality of their e-banking service is reliability.And another a comparable outcome was likewise attained in a conducted empirical investigation result was also obtained in an empirical study done by (Kettinger and Lee, 2005).

Security and Privacy: “Information Privacy refers to the desire of individuals to control or have some influence over data about themselves” (Bélanger&Crossler, 2011). Researchers discovered and looked into a variety of factors related to privacy and security such as upholding operational standards, refraining from disclosing personal information, and ensuring high level of protection for client data (Agarwal, Rastogi and Mehrotra, 2009, data, 2010 and Poon, 2007)

Responsiveness and communication: In accordance with Madu and Madu (2002), responsiveness refers to a bank's willingness to assist customers and offer them quicker service. There are four ways to express these types of services. First off, the service may be completely controlled and run by the e-banking system. Another

benefit of using electronic banking is that it can assist customers in completing transactions without error. Third, it can also include a quick fix for any potential e-banking transaction errors. Finally, it can provide an immediate response to the customer's question in assistance.

The literature provide suggestion efficiency, reliability, security and privacy & responsiveness and communication are four important independent dimensions of customer satisfaction with e-banking service quality.

2.5 Research Gap

This study aims to investigate how customer satisfaction with electronic banking service in Nepalese commercial banks is affected by service quality. Discussing the aforementioned literature revealed that e-banking is crucial to client happiness.

Similarly, numerous researches have been conducted in the context of customer satisfaction to examine the impact and practices of e-banking services. E-banking services like automated teller machine, internet banking services, mobile banking services, credit card services, debit card services and electronic fund transfer services were treated as independent variables and were considered as important factors determining customer satisfaction. There are many study have been done related to customer satisfaction on marketing sector but there is little study in banking sector, So this study has tried to fill up this gap. And all the previous researches in Nepal had not incorporated all these variables to examine the affect of e-banking services quality and customer satisfaction in banking industry which can be seen as a research gap.

CHAPTER-III
RESEARCH MOTHODOLOGY

Research methodology is the specific procedures or techniques which is using to identify, select, processing and analyze information about a topicKothari, 2004). It is a science of studying how research needs to be carried out scientifically and systematically. Basically, the procedures which researchers go through their work of describing, explaining and predicting phenomena of study are called research methodology.

The chapter discusses, in detail, the methodology the researcher adopted in undertaking this research. It provides a description of methods and reasons for their adoption during the data gathering process of the study. This chapter begins with the research design of the study followed by the population and sample, data collection, data collection techniques, validity test, reliability test, data analysis and software used.

3.1 Research Design

“Research Design is the plan, structure, and strategy of investigation conceived so as to obtain answers to research question. The plan is the overall scheme or program of the research. It includes an outline of what the investigator will do from writing the hypotheses and the operation, implications and the final analysis of data.” (Kerlinger, 1986).

The study is based on descriptive and casual-comparative research design. To describe the components of e-banking services quality descriptive design is used. Similarly, casual-comparative design helps to determine the relationship between dependent (customer satisfaction) and independent variable (e-banking services quality). Further casual research design is used to examine the affect of e-banking services quality on customer satisfaction of Nepalese commercial bank. A descriptive study is undertaken in order to ascertain and able to describe the characteristics of value of interest.

The study used quantitative method for data collection for the purpose of analysis. Mainly structured questionnaire survey was used to generate response based on which statistical analysis is done to test hypothesis.

3.2 Population and Sample

Population must be defined in terms of elements, sampling units, extent and time. The sample is a subset of a larger population. Almost all research studies involve sampling. This study all Nepalese commercial e-banking subscribers are total population.

The sample is selected from the total population. The main objective of using sampling will help you save time, effort, and money. So, the basic part is going through sampling of the population. The sample consisted of 384 e-banking subscribers of different Nepalese commercial bank. The respondents for this research were collected through non-probability sampling technique: convenience sampling. The sample size of 384 consisted of e-banking customers of different age, income, occupational and educational background. They were provided questionnaire in form of an anonymous online survey. Determine the sample size use following formula:

$$n_0 = \frac{z^2 p}{e^2}$$

Where,

$n_{0=}$ The sample Size
z= Standard error associated with the chosen level of confidence (typically 1.96)
p= Estimated percent in the population
q=100-p
e=acceptable margin of sample error

3.3 Data Source

To gather and examine the impact of the quality of e-banking services on consumer satisfaction with Nepalese commercial banks, primary data sources were employed.

3.3.1 Primary Sources

The investigation is based on the primary source of data for research questions. Primary data are the first hand data collected by the researcher to test the working of hypothesis and then used as evidence to support a researcher's claim. For the purpose of primary data the researcher used questionnaire method to collect the data. The respondents were requested to fill the questionnaire and were made fully aware about for what purpose the research was being carried out and the main objective of the study. This method of collecting data made a better understanding of customer regarding e-banking services quality and customer satisfaction of banking industry in Nepal. The questionnaire were distributed and collected during any flexible time of respondent and researcher.

3.3 Data Collection Procedure

Both primary and secondary data were used for this research study. The primary data and information necessary for the research study was collected from structured questionnaire survey which contains the respondent's related information through tick mark questions. The survey was conducted online and anonymously. The data was analyzed in descriptive and casual comparative method. The relationship between dependent and independent variables were analyzed in multi-step regression analysis to determine the relationship between customers' satisfaction level towards Nepalese commercial banks and the factor affecting it. Additionally, secondary data gathered from different articles, findings and research papers were used to cross check the validity of the findings.

3.4.1 Questionnaires

Our methodological approach is to use a questionnaire in order to measure the Impact of Electronic Banking service quality over customer satisfaction in Nepal, and analyzes the dimensions of E-Banking services quality that would affect customer satisfaction. In order to conduct the study, structured questionnaire were used. Data for the study were gathered using a research questionnaire with properly crafted questions. Two sections made up the questionnaire. The participants' demographic data had to be gathered in the first section. This included age, sex, educational and income level and number of years transacting business with the Bank.

The second section includes 27 likert scale statement of e-banking service reliability,security and privacy, responsiveness and communication, efficiency and customer satisfaction. A 5 point likert scale (strongly disagrees, disagree, natural, agree and strongly agree). The individual score were summed and averaged for analysis.

The questionnaire design was explained by the help of theoretical framework which shows the format of questionnaire. The questionnaire was designed by relating the factors involving with the quality and service. The survey questionnaire was designed in a simple, clear and understandable way. The major question types used were Yes/ No question, single response, multiple responses, ranking question and Likert scale question.

3.5 Validity and Reliability

The reliability and validity are one of the important tools to find out the right result for effectiveness of research. Reliability deals with the accuracy and correctness of the procedure. Similarly, validity is the extent to which a concept, conclusion or measurement is well-founded and likely corresponds accurately to the real world. To evaluate the outcomes of the research about its validity and reliability, several methodologies including composite reliability, construct validity and Cronbach's testing were performed.

3.5.1Composite Reliability

Cronbach 's coefficient alpha is the most widely used estimator of the reliability of tests and scales. However, it has been criticized as being a lower bound and hence underestimating true reliability. A popular alternative to coefficient alpha is composite reliability, which is usually calculated in conjunction with structural equation modeling. The internal consistency reliability of the instrument can be evaluated using Cronbach’s alpha. For exploratory purposes, Cronbach’s alpha should be 0.7 or higher, but 0.6 or higher is also acceptable.(Hair et al., 2011).

The measuring model’s constructs’ dependability is gauged by CR. It evaluates the construct scales used in the research instrument tools for internal consistency (Hair,

Black, Babin, Anderson, &Tatham, 2010). The model fit well, CR values are all factors are greater than 0.7 thresholds (Hair et al, 2010).

The measuring model's constructs' dependability is gauged by CR. It evaluates the construct scales used in the research instrument tools for internal consistency.

3.5.2 Construct Validity

Construct validity concerns the extent to which your test or measure accurately assesses what it's supposed to. Construct validity refers to whether a scale or test measures the construct adequately. There are two types of measure model:

Convergent Validity:Convergent validity was assessed through standardized factor loadings in the measurement model. These loadings show the extent to which indicators of a construct converge on that construct. As shown in the model, all factor loadings, after eliminating items with low loadings, were above the suggested cutoff of 0.5 (Byrne, 2016).

Discriminant Validity:A construct measure must be empirically distinct and represent phenomena of interest that other measures in a structural equation model are unable to assess. This is known a discriminant validity. If a latent variable explains more variance in its related indicator variables than it does with other constructs in the same model, it is said to have discriminant validity (Fornell&Larcker, 1981) validity assesses whether the constructs under study are different from each other by verifying that all average variance extracted (AVE) values exceeded the 0.5 recommended cutoffs (Byme, 2016).AVE refers to the measure of the variance due to measurement error (Fornell&Larcker, 1981).

3.4 Data Analysis

The software package of Microsoft excel 2010, SPSS version 20 and AMOS version 20 was used to analyze the data for this investigation. This study was conducted in two stages. Factor analysis was used in the first phase to determine the measurement's value, and SEM was used in the second step to investigate the effect of exogenous variables over endogenous variables.

3.6.1 Descriptive Analysis

Descriptive statistics have been used to explain the demographic characteristic of the respondents and respondent of question variance along with e-banking services quality and customer satisfaction. Frequencies, percentages, mean and standard derivations were calculated to describe the variables.

3.6.2 Factor Analysis

Factor analysis is a multivariate statistical technique used to investigate the relation between sets of observed and latent variables. It measures the correlations among the variables and identifies core dimensions called factors. There are two types of Factor Analysis: Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA).

3.6.2.1 Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis is a statistical method for identifying latent variables, construct or factors that influence (or are influenced by) observed variables, also called indicators or items. If the relationships between the observed and latent variables are unknown or uncertain, EFA is used. EFA explores data for patterns. The reasons for using EFA is (i) to explain the exogenous (independent) factors that the variables behavioral determinants of the questionnaire belong to (ii) to provide latent constructs for Confirmatory factor Analysis (CFA). EFA is utilized in the study to examine the variables, components, and stages of rational decision-making as well as heuristics. Similar to that, it's also utilized to cut down on the quantity of objects that don't fit the analysis's requirements; Criteria of EFA are as follows:

- Factor loadings: These graphs depict the relationships between each item and the factors to which it belongs. A factor loading of at least 0.5 is required.
- Additionally, the sample size's suitability must be evaluated. The Kaiser-Mayer-Olkin (KMO) test evaluates the suitability of the sample. KMO demonstrates whether the study's sample is sufficient. If you want to be sure that factor analysis will work with the data, it should be between 0.5 and 1 (significant level less than 0.05).
- Total variance explained is used to determine how many factors can be kept in until the last element only contributes a little amount to the explained variation. It ought to be higher than 50%. (Hair et al., 1998).

3.6.2.2 Confirmatory Factor Analysis (CFA)

CFA is used when the researcher has some knowledge (through theory, empirical research or both) of the latent variable structure (Barbara, 2016). Based on such knowledge of the theory, empirical research, or both, relations between the observed measures and the underlying factors are hypothesized and tested. CFA tells how well the specification of the factor structure matches the reality. It provides confirmatory test of the measurement theory.

3.6.3 Structure Equation Model

A statistical method known as structural equation model is used to assess and estimate causal relationships using a combination of statistical information and qualitative causal hypotheses.

A thorough statistical method for testing hypotheses examining relationships between observable and latent variable may also be used to explain the structural equation model. A theoretical network of linear relationships between the elements is represented, estimated, and tested using this methodology (Rigdon, 1998).

Measured factors and latent constructs are analyzed structurally using a structural equation model. Researches overwhelmingly favor with just one study, a structural equation model can estimate many, connected dependencies.

The main purpose of structural equation modeling (SEM) is twofold. In particular, structural equation models include route analysis and confirmatory factor analysis (CFA). CFA includes the use of numerous measurable variables to produce latent or unobserved entities. The structural links between observable measurements and latent constructs are estimated through path analysis. In a broader sense, this enables researchers to shed light on intricate causal connections between observable variables and latent variables.

Therefore, it is clear that SEM consists of I a measurement model that builds latent constructs from observable variables and (ii) a structural model that analyzes correlations between variables. In two main sections, this provides a succinct and non-technical understanding of SEM. The conceptual foundations of measurement and the

structural Model are further developed in the first section. The second discusses SEM's unique objectives and uses in social science research.

3.6.3.1 The Measurement Model

In a structural equation model, the measurement model is used to evaluate the validity and reliability of the relationships between the indicators and the latent components. The reliability variation from the robustness tests was represented by a construct that was correlated with the variance resulting from measurement error **(**Fornell&Larcker, 1981).

3.6.3.1 The Structural Model

Four exogenous factors (reliability, efficiency and ease, safety and privacy, and responsiveness and communication) and one endogenous variable were included in this model (satisfaction with service quality).According to the conventional model fit indicators; both models fit the data well.

Table 3.1 Standard model fit indictors

Indices	**Symbol**	**Authors**	**Criteria**
Chi-Square	$\chi 2$	Meyers al 2005	P value >.05
Insignificant Chi-Square/Degree of Freedom	CMIN/DF	Marsh & Hocevar, 1985	<5.0
Goodness-of-Fit Index	GFI	Chau, 1997	>.90
Comparative Fit Index	CFI	Bentler,1990	>.90
Root Mean Square Error of Approximation	RMSEA	Byrne 2001	<.08
Root Mean Square Residual	SRMR	Hair et al 2009	<.09
Normed Fit Index	NFI	Bentler and Bonett, 1980	>.90

3.7 Software used

The responses data collected from the different distribution of questionnaire enter into the Microsoft office excel 2010, and then processing on IBM SPSS V 21 and AMOS V21. After that data were analyzed, interpreted and was presented in the written format using Microsoft Office words 2010.

CHAPTER-IV
RESULTS AND DISCUSSION

This chapter has two sections. In the first section data are analyzed statistically and results are presented and interpreted. In the second section the outcomes of the research hypotheses are discussed based on the results of the research.

Data analysis is a process of inspecting, cleansing, transforming, and modeling data with the goal of discovering useful information, suggesting conclusions, and supporting decision-making. It is the next necessary step after collecting and systematically arranging the responses for revealing the relevant facts from the information and data provided by the respondents. For this research purpose, Microsoft Excel, SPSS and AMOS were used to analyze the data collected from questionnaire. The descriptive statistics was used to analyze the data like percentage, frequency and cross tabulation. Analyzing the data also involves necessary coding as well as editing of the analyzing tool. The errors were highlighted, and the correction was done. The coding was given as per the requirement to enter the data at last stage. The coding and categorization were done before the entry of the data collected. Data analysis has been divided in three categories: demographic, descriptive and structure equation model

4.1 Respondents Demographic Profile

This section deals with the demographic analysis and interpretation of primary data collected through questionnaires. In this section the respondents profile was analyzed in terms of gender, age, education, income and frequency of years of using e- banking services. Out of 650 questionnaires sent to potential respondents, only 384 responses were collected.

The table 3 illustrate that the percent distribution of the respondents on the basis of gender. In this study, data from 384 respondents were collected and analyzed. Out of the total respondent’s male respondents accounted for 53.7 percent (207) of the sample and female respondents accounted for 46.1 percent (177) of the total sample. This shows that there is slightly higher number of male respondents in comparison to female respondents taken for this study.

The table depicts the percentage distribution of the respondents on the basis of their age group. The column shows that most of the respondents belong to age group 18-30 years, which accounts for 40.7 percent of the respondents. It is followed by age group by 31-40 years group representing 24.7 % of the respondents, 41-50 years group representing 13.8% and 51 years and above group representing 11.7%. This might be due to the banks' location on a campus of a university where most of the patrons are students.This finding suggest that most of the customer were found in the working as bracket as they might be much involve in transaction daily banking business.

The table presents the profile of respondents based on their education. Analysis showed that, the majority of the respondents were on Master's Degree and above level. There were Master's and above programmers representing 59.6%while representing 26.8% were Graduate level and representing 13.5% were up to +2 level under Graduate. Finding from these responses is attributed to the fact that banking and e-banking processes require some basic literacy and as such it was no surprise that all the respondents had some level of formal education.

The table also presents the profile of respondents based on their monthly income level. The majority of the respondents were on above 60,000level of income representing 38.3% followed by the 30,000-60,000 representing 46.1% and below 30000 representing 15.6%.

The table also stated information regarding respondent's frequency of usage e-banking services of the bank. Out of 384 respondents, 1 respondents representing 0.3% have been using the services for never use while a total of 36 representing 9.4% have been using the services for about once time per a month. It was also found that, 96 respondents representing 25% have been using the services for about twice time per a month, 251 respondents representing 65.4% have been using the services for about three and above time use per a month.

The table also stated information regarding respondent's years of using e-banking services of the bank. Out of 384 respondents, 54 respondents representing 14.1% have been using the services for less than one while a total of 118 representing 30.7% have been using the services for about 1 -3 years. It was also found that, 212 respondents representing 55.2% have been using the services for about more then3 years.

Table 4.1 Demographic Profile of the respondents

Demography	Characteristics	Frequency	Percent
Age	18 – 30 years	191	49.7
	31 - 40 years	95	24.7
	41 – 50 years	53	13.8
	51 years & above	45	11.7
	Total	384	100.0
Gender	Male	207	53.9
	Female	177	46.1
	Total	384	100.0
Length of usage	Less than one year	54	14.1
	1 to 3 years	118	30.7
	More than 3 years	212	55.2
	Total	384	100.0
Income	Below 30,000	147	38.3
	30,000 to 60,000	177	46.1
	Above 60,000	60	15.6
	Total	384	100.0
Education	Up to +2 level	52	13.5
	Graduate	103	26.8
	Master's Degree and above	229	59.6
	Total	384	100.0
Frequency of usage	Never	1	.3
	Once per month	36	9.4
	Twice per month	96	25.0
	Three times per month	251	65.4
	Total	384	100.0

4.2 Responses of respondent on electronic banking service quality on customer satisfaction

The researcher in this section wants to find out the responses of respondent on electronic banking service quality and customer satisfaction through the data collected from questionnaire during the research process. Here, descriptive analysis incorporates calculation of statistical measures such as frequency. Questions dealt with ranking system on five point Liken scale anchored —Strongly Agree =1, Agree= 2, Neutral=3, Disagree= 4 and Strongly Disagree= 5.

4.2.1 Frequency and Percentage of Efficiency

This section deals with the responses of respondent based on the efficiency and ease of use electronic banking and their satisfaction. On the basis of respondent‘s

satisfaction on efficiency and ease of use electronic banking, frequency and percentage is tabulated below:

Table 4.2 Frequency and Percentage of efficiency

Efficiency	Strongly disagree		Disagree		Neutral		Agree		Strongly Agree	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%
EF1	14	3.6	19	4.9	70	18.2	200	52.1	81	21.1
EF2	14	3.6	19	4.9	64	16.7	201	52.3	86	22.4
EF3	14	3.6	19	4.9	62	16.1	201	52.3	88	22.9
EF4	19	4.9	14	3.6	68	17.7	201	52.3	82	21.4
EF5	14	3.6	19	4.9	54	14.1	215	56.0	82	21.4
EF6	20	5.2	23	6.0	57	14.8	213	55.5	71	18.5

The above table presents the frequency and percentage of respondents on efficiency and ease of use of electronic banking with its basic statements. On the first statement, out of 384 respondents most of the respondents i.e. 200(52.1%) are agree that the use of electronic banking service are time saving. And 81(21.1%) of the respondents are strongly agree, 70(18.2%) respondent are neutral, 19(4.9%) respondent are disagree, 14(3.6%) on the statement. On the second statement, out of 384 respondents most of the respondents i.e. 201(52.3%) are agree that the service delivered through the e-banking services are quick. And 86(22.4%) of the respondents are strongly agree, 64(16.1%) respondent are neutral, 19(4.9%) respondent are disagree, 14(3.6%) on the statement. On the third statement, out of 384 respondents most of the respondents i.e. 201(52.3%) are agree. And 88(22.9%) of the respondents are strongly agree, 62(16.1%) respondent are neutral, 19(4.9%) respondent are disagree, 14(3.6%) are strongly disagree on the statement. On the fourth statement, out of 384 respondents most of the respondents i.e. 201(52.3%) are agree. And 82(21.4%) of the respondents are strongly agree, 68(17.7%) respondent are neutral, 14(3.6%) respondent are disagree, 19(4.9%) are strongly disagree on the statement. On the fifth statement, out of 384 respondents most of the respondents i.e. 215(56%) are agree. And 82(21.4%) of the respondents are strongly agree, 54(14.1%) respondent are neutral, 19(4.9%) respondent are disagree, 14(3.6%) respondents are strongly disagree on the statement. On the sixth statement, out of 384 respondents most of the respondents i.e. 213(55.5%) are agree that is refers to the e-banking service use are vary simple.And 71(18.5%) of the respondents are strongly agree, 57(14.8%) respondent are neutral, 23(6%) respondent are disagree, 20(5.2%) respondents were strongly disagree on the

statement. From this all analysis we can conclude that most of the respondents are agree and satisfy with the efficiency and ease of use electronic banking service in the Nepalese banking sector.

4.2.2 Frequency and Percentage of reliability

This section deals with the responses of respondent based on the reliability of electronic banking and their satisfaction. On the basis of respondent‘s satisfaction on efficiency and ease of use electronic banking, frequency and percentage is tabulated below:

Table 4.3 Frequency and Percentage of reliability

Relibaility	Strongly disagree		Disagree		Neutral		Agree		Strongly Agree	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%
R1	10	2.6	9	2.3	45	11.7	248	64.6	72	18.8
R2	18	4.7	6	1.6	37	9.6	250	65.1	73	19.0
R3	13	3.4	9	2.3	47	12.2	230	59.9	85	22.1
R4	9	2.3	13	3.4	55	14.3	220	57.3	87	22.7
R5	10	2.6	11	2.9	65	16.9	201	52.3	97	25.3

Table 4.3 illustrates the electronic banking review of their service quality based on reliability. On the first (R1) statement, out of 384 respondents most of the respondents i.e. 248(64.6%) are agree. And 72(18.8%) of the respondents are strongly agree, 45(11.7%) respondent are neutral, 9(2.3%) respondent are disagree, 10(2.6%) respondents were strongly disagree on the statement.

On the second (R2) statement, out of 384 respondents most of the respondents i.e. 250(65.1%) are agree that means the e-banking service is reliable and dependable. And 73(19%) of the respondents are strongly agree, 37(9.6%) respondent are neutral, 6(1.6%) respondent are disagree, 18(4.7%) respondents were strongly disagree on the statement.

On the third statement, out of 384 respondents most of the respondents i.e. 230(59.9%) are agree. And 85(22.1%) of the respondents are strongly agree, 47(12.2%) respondent are neutral, 9(2.3%) respondent are disagree, 13(3.4%) respondents were strongly disagree on the statement.

On the forth statement, out of 384 respondents most of the respondents i.e. 220(57.3%) are agree.And 87(22.7%) of the respondents are strongly agree, 55(14.3%) respondent are neutral, 13(3.4%) respondent are disagree, 9(2.3%) respondents were strongly disagree on the statement.

On the fifth statement, out of 384 respondents most of the respondents i.e. 201(52.3%) are agree. And 97(25.3%) of the respondents are strongly agree, 65(16.9%) respondent are neutral, 11(2.9%) respondent are disagree, 10(2.6%) respondents were strongly disagree on the statement.

4.2.3 Frequency and Percentage of Security and Privacy

This section deals with the responses of respondent based on the efficiency and ease of use electronic banking and their satisfaction. On the basis of respondent‘s satisfaction on security and privacy of electronic banking, frequency and percentage is tabulated below:

Table 4.4 Frequency and Percentage of Security and Privacy

Security and Privacy	Strongly disagree		Disagree		Neutral		Agree		Strongly Agree	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%
S1	14	3.6	19	4.9	78	20.3	200	52.1	73	19.0
S2	19	4.9	14	3.6	68	17.7	201	52.3	82	21.4
S3	14	3.6	19	4.9	68	17.7	201	52.3	82	21.4
S4	19	4.9	14	3.6	70	18.2	201	52.3	80	20.8
S5	14	3.6	19	4.9	54	14.1	215	56.0	82	21.4
S6	20	5.2	23	6.0	44	11.5	213	55.5	84	21.9

Table 4.4 illustrates the e-banking review of their service quality based on security and privacy. On the third statement (S3), 14 out of 384 respondents found their security devices of the e-banking service is secured and safe from any fraud or hacking to be strongly disagree. It represents 3.6% of total responses. Similarly, 19 out of 384 respondents representing a total of 4.9% found the to be disagreeing. 78 out of 384 respondents (20.3%) found the to be neutral. In contrast, 200 respondents found to be agreed. 73 respondents to be strongly agreed.

On the second statement (S2), 19 out of 384 respondents found their security devices of the e-banking service provide high protection for my banking transaction to be strongly disagreeing. It represents 4.9% of total responses. Similarly, 14 out of 384

respondents representing a total of 3.6% found the security devices of the security devices of the e-banking service provide high protection for my banking transaction to be disagree. 68 out of 384 respondents (17.7%) found the security devices of the e-banking service provide high protection for my banking transaction to be neutral. In contrast, 201 respondents found their security devices of the security devices of the e-banking service provide high protection for my banking transaction to be agreed. 82 respondents found the security devices of the security devices of the e-banking service provide high protection for my banking transaction to be strongly agreed.

On the third statement (S3), 14 out of 384 respondents found thereto be stronglydisagree. It represents 3.6% of total responses. Similarly, 19 out of 384 respondents representing a total of 4.9to be disagree. 68 out of 384 respondents (17.7%) to be neutral. In contrast, 201 respondents found agreed. 82 respondents found the security devices of the e-banking service are secured and safe from any fraud or hacking to be strongly agree.

On the forth statement (S4), 19 out of 384 respondents found their security devices of the E-Banking services protect the data that are sent by me to be strongly disagree. It represents 4.9% of total responses. Similarly, 14 out of 384 respondents representing a total of 3.6% found the security devices of the E-Banking services protect the data that are sent by me to be disagree. 70 out of 384 respondents (18.2%) found the security devices of the E-Banking services protect the data that are sent by me to be neutral. In contrast, 201 respondents found their security devices of the E-Banking services protect the data that are sent by me to be agreed. 80 respondents found the security devices of the E-Banking services protect the data that are sent by me to be strongly agree.

On the fifth statement (S5), 14 out of 384 respondents found their E-Banking services offers secure personal privacy to be strongly disagree. It represents 3.6% of total responses. Similarly, 19 out of 384 respondents representing a total of 4.9% found the E-Banking services offers secure personal privacy to be disagree. 54 out of 384 respondents (14.1%) found E-Banking services offers secure personal privacy to be netural. In contrast, 215 respondents found their E-Banking services offers secure personal privacy to be agreed. 82 respondents found the E-Banking services offers secure personal privacy to be strongly agree.

On the sixth statement (S6), 20 out of 384 respondents found their feel secure while making transactions through the e-banking to be strongly disagree. It represents 5.2% of total responses. Similarly, 23 out of 384 respondents representing a total of 6% found the feel secure while making transactions through the e-banking to be disagree. 44 out of 384 respondents (11.5%) found their feel secure while making transactions through the e-banking to be netural. In contrast, 213 respondents found their feel secure while making transactions through the e-banking to be agree. 84 respondents found the feel secure while making transactions through the e-banking to be strongly agree.

In summary, most of respondents were agree with the security and privacy of e-banking on customer satisfaction whereas an very low of respondentswere strongly disagree and disagree the security and privacy of e-banking on customer satisfaction overall statement.

4.2.4 Frequency and Percentage of Responsiveness and Communication

This section deals with the responses of respondent based on responsiveness and communication ofelectronic banking and their satisfaction. On the basis of respondent‘s satisfaction on security and privacy of electronic banking, frequency and percentage is tabulated below:

Table 4.5 Frequency and Percentage of responsiveness and communication

Responsiveness and communication	Strongly disagree		Disagree		Neutral		Agree		Strongly Agree	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%
RC1	8	2.1	7	1.8	36	9.4	253	65.9	80	20.8
RC2	5	1.3	8	2.1	39	10.2	237	61.7	95	24.7
RC3	4	1.0	8	2.1	46	12.0	244	63.5	82	21.4
RC4	8	2.1	3	.8	43	11.2	256	66.7	74	19.3
RC5	7	1.8	8	2.1	39	10.2	241	62.8	89	23.2

Table 4.5 explains about the users' review regarding the responsiveness and communication of their e-banking services from their service providers. According to the survey responses on the statement first (RC1), 8 out of 384 respondents (2.1%) were strongly disagree with e-banking services are available 24/7. Similarly, another 7 respondents were also disagree with e-banking services are available 24/7. On the other side, 36 out of 384 respondents reviewed the e-banking services are available

24/7to be neutral which accounts for 9.4% of total responses. Mostly 253(65.9%) respondents found e-banking services are available 24/7to be agree. 80 respondents accounting for a total of 20.8% found bank e-banking services are available 24/7to be strongly agree.

According to the survey responses on the statement second (RC2), 5 out of 384 respondents (1.3%) were strongly disagree with e-banking services respond immediately to customer requests. Similarly, another 8 respondents were also disagree with e-banking services respond immediately to customer requests. On the other side, 39 out of 384 respondents reviewed the e-banking services respond immediately to customer requests to be neutral which accounts for 10.2% of total responses. Mostly 237(61.7%) respondents found e-banking services respond immediately to customer requests to be agree. 95 respondents accounting for a total of 24.7% found bank e-banking services respond immediately to customer requests to be strongly agree.

According to the survey responses on the statement third (RC3), 4 out of 384 respondents (1%) were strongly disagree with help is immediately available if there is any problem. Similarly, another 8 respondents were also disagree with help is immediately available if there is any problem. On the other side, 46 out of 384 respondents reviewed thehelp is immediately available if there is any problem to be fair which accounts for 12% of total responses. Mostly 244(63.5%) respondents found the help is immediately available if there is any problem to be agree. 82 respondents accounting for a total of 121.4% found the help is immediately available if there is any problem to your questions to be strongly agree.

According to the survey responses on the statement forth (RC4), 8 out of 384 respondents (2.1%) were strongly disagree with e-banking services provide answers to your questions. Similarly, another 3 respondents were also disagree with e-banking services provide answers to your questions. On the other side, 43 out of 384 respondents reviewed the bank deals gently with e-banking services provide answers to your questions to be fair which accounts for 11.2% of total responses. Mostly 256(66.7%) respondents found bank deals gently with e-banking services provide answers to your questions to be agree. 74 respondents accounting for a total of 19.3% found bank deals gently with e-banking services provide answers to your questions to be strongly agree.

According to the survey responses on the statement fifth (RC5), 7 out of 384 respondents (1.8%) were strongly disagree with the bank deals gently with customer complaints about electronic service. Similarly, another 8 respondents were also disagree with bank deals gently with customer complaints about electronic service. On the other side, 39 out of 384 respondents reviewed thebank deals gently with customer complaints about electronic service to be fair which accounts for 10.2% of total responses. Mostly 253 (65.9%) respondents found bank deals gently with customer complaints about electronic service to be agree. 80 respondents accounting for a total of 20.8% found bank deals gently with customer complaints about electronic service to be strongly agree in responsiveness and communication.

In summary, most of respondents were agree with the responsiveness and communication of e-banking on customer satisfaction where as an very low of respondents were strongly disagree and disagree the responsiveness and communication of e-banking on customer satisfaction overall statement.

4.2.5 Frequency and Percentage of Customer Satisfaction

This section deals with the responses of respondent based on service quality ofelectronic banking and their satisfaction. On the basis of respondent‘s satisfaction on security and privacy of electronic banking, frequency and percentage is tabulated below:

Table 4.6 Frequency and Percentage of Customer Satisfaction

customer satifaction	Strongly disagree		Disagree		Neutral		Agree		Strongly Agree	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%
CS1	22	5.7	10	2.6	58	15.1	210	54.7	84	21.9
CS2	18	4.7	20	5.2	61	15.9	183	47.7	102	26.6
CS3	23	6.0	10	2.6	56	14.6	208	54.2	87	22.7
CS4	18	4.7	21	5.5	48	12.5	207	53.9	90	23.4
CS5	22	5.7	10	2.6	70	18.2	184	47.9	98	25.5

Table 4.6 explains about the users' review regarding the responsiveness and communication of their e-banking services from their service providers.According to the survey responses on the first (CS1) statement, out of 384 respondents most of the respondents i.e. 210(54.7%) are agree that I am satisfied with the transaction

processing via e-banking services. And 84(21.9%) of the respondents are strongly agree, 58(15.1%) respondent are neutral, 10(2.6%) respondent are disagree, 22(5.7%) respondents were strongly disagree on the statement.

According to the survey responses on the second (CS2) statement, out of 384 respondents most of the respondents i.e. 183(47.7%) are agree that I will strongly recommend other to use the e-banking services. And 102(26.6%) of the respondents are strongly agree, 61(15.9%) respondent are neutral, 20(5.2%) respondent are disagree, 18(4.7%) respondents were strongly disagree on the statement.

According to the survey responses on the third (CS3) statement, out of 384 respondents most of the respondents i.e. 208(53.9%) are agree that my satisfaction with the E-Banking services is high. And 87(22.7%) of the respondents are strongly agree, 56(14.6%) respondent are neutral, 10(2.6%) respondent are disagree, 23(6%) respondents were strongly disagree on the statement.

According to the survey responses on the forth (CS4) statement, out of 384 respondents most of the respondents i.e. 207(53.9%) are agree that I am satisfied with the bank's e-service quality. And 90(23.4) of the respondents are strongly agree, 48(12.5%) respondent are neutral, 21(5.5%) respondent are disagree, 18(4.7%) respondents were strongly disagree on the statement.

According to the survey responses on the fifth (CS5) statement, out of 384 respondents most of the respondents i.e. 184(47.9%) are agree that the overall, e-banking services is better than my expectations. And 98(25.5%) of the respondents are strongly agree, 70(18.2%) respondent are neutral, 10(2.6%) respondent are disagree, 22(5.7%) respondents were strongly disagree on the statement.

In summary, most of respondents were agree with the responsiveness and communication of e-banking on customer satisfaction where as an very low of respondents were strongly disagree and disagree the responsiveness and communication of e-banking on customer satisfaction overall statement.

4.3 Descriptive Analysis

Descriptive statistical analysis of the individual items of three stages of rational decision making and cognitive and emotional heuristics are presented in Table 4.7. In table 4.7, items EF mean value is nearly 4 all are above 3.8 and standard deviation value is above 0.9. Similarly item R mean value is nearly 4, all items mean value is above 3.9 and standard deviation value is above 0.8.Another items S, RC and SC mean value are nearly 4, all items mean value is above 3.5 and standard deviation is also above 0.9. Value of mean and standard deviation show average value and variance each items respectively.

Table 4.7 Descriptive statistics of constructs

Items	N	Mean	Std. Deviation
EF1 The use of E-Banking services are time saving	384	3.82	.943
EF2 The service delivered through the E-Banking services is quick	384	3.85	.947
EF3 Learning to operate the e-banking system is easy for me.	384	3.86	.948
EF4 My interaction with the e-banking system is clear and understandable.	384	3.83	.943
EF5 I find the e-banking system to be flexible to interact with.	384	3.86	.930
EF6 E-banking service use are very simple.	384	3.76	.993
R1 I have high confidence in the e-banking services in the bank.	384	3.95	.795
R2 E-banking service is reliable and dependable.	384	3.92	.876
R3 E-banking services perform for me the service perform for me the service right on the first time.	384	3.95	.861
R4 I have always found e-banking service channels in working order.	384	3.95	.846
R5 I prefer using e-banking service instead of visiting the branch.	384	3.95	.878
S1E-banking services do not allow other to access my	384	3.92	.850

accounts.			
S2 E-banking service provides high protection for my banking transaction.	384	3.96	.885
S3 E-banking service is secured and safe from any fraud or hacking.	384	3.93	.894
S4 The security device of the e-banking services protect the data that are sent by me.	384	3.91	.904
S5 E-banking service offers secure personal privacy.	384	3.89	.913
S6 I feel secure while making transactions through the Internet	384	3.92	.875
RC1 E-Banking services are available 24/7	384	4.02	.751
RC2 E-Banking services respond immediately to customer requests	384	4.07	.739
RC3 Help is immediately available if there is any problem	384	4.02	.715
RC4 E-Banking services provide answers to your questions	384	4.00	.724
RC5 Bank deals gently with customer complaints about electronic service	384	4.03	.762
CS1 I am satisfied with the transaction processing via e-banking service.	384	3.84	.984
CS2 I will strongly recommend other to use the E-Banking services	384	3.86	1.019
CS3 My satisfaction with the E-Banking services is high	384	3.85	.998
CS4 I am satisfied with the bank's e-services quality.	384	3.86	.991
CS5 Overall, E-Banking services is better than my expectations	384	3.85	1.018

4.4 Exploratory factor Analysis

EFA is used to study the variables or constructs of heuristics, while EFA is used to explore the stage of rational decision-making and the variables or constructs of heuristics. Similar to that it is also employed to lessen the amount of objects that fail

to match the analysis’s requirements. The phases of making a logical decision making. Similar to that, it is also employed to lessen the amount of objects that fail to match the analysis’s requirements.

EFA is used to explore the factors or constructs of variables of heuristics and the stages of rational decision making. Similarly, it is also used to reduce the number of items that do not meet the criteria of the analysis. In this study, EFA was conducted by using Principal Component Analysis (PCA) on 27 items and rotated with Varimax with Kaiser Normalization. At initial stage of EFA, Kaiser-MeyerOlkin (KMO) value was 0.911and Bartlett's Test of Sphericity value of Chi-square was 10152.561 which showed that the sample was adequate for EFA. The Rotated Component Matrix also extracted five factors. But, the items crossloaded into other constructs. Also, factor loadings of the items EF6 were less than 0.5. However, Gaskin (2016) stated that sufficient/significant loadings depend on the sample size of dataset. Sufficient factor loading for sample size 150 is 0.45, for 200 is 0.40 and for more than 200 is 0.5. Thus, factor loading may be sufficient in this study while doing EFA.

After deleting the items E6 the outliers, the results are as follows. The KaiserMeyer-Olkin (KMO) value of 0.895indicates that the sample size is adequate for EFA. Similarly, according to Bartlett’s test of Sphericity, factor analysis can be done if correlations between the observable variables are statistically significant overall. Statistics show that the Chi-square value of 7527.08 is noteworthy (p-value0.000).

Table 4.8Rotated Component Matrixes for EFA

Factors	Items	1	2	3	4	5
Efficiency	EF1		.598			
	EF2		.908			
	EF3		.884			
	EF4		.735			
	EF5		.737			
	EF6		.320			
Reliability	R1			.765		
	R2			.887		
	R3			.692		
	R4			.650		
	R5			.726		
Seucrity and Privacy	S1	.752				
	S2	.763				
	S3	.810				
	S4	.842				
	S5	.792				
	S6	.903				
Responsivenes s and Communication	RC1					.691
	RC2					.650
	RC3					.681
	RC4					.805
	RC5					.699
Customer Satisfaction	CS1				.868	
	CS2				.798	
	CS3				.829	
	CS4				.765	
	CS5				.782	

4.5 Confirmatory factor Analysis

After conducting EFA, CFA is conducted to confirm the factor structure extracted in CFA (Gaskin, 2016). At the first stage of CFA, reliability and validity of the measurement model should be established. At the second stage, model fit analysis is performed. Model fit refers to how well the proposed model accounts for the correlations between variables in the dataset 33 (Gaskin, 2016).

Model fit is the situation where the proposed model fits the observed or estimated model. While doing CFA, testing the reliability and validity of the measurement model is immensely necessary. According to Gaskin (2016), if factors do not establish adequate validity and reliability, moving on to test a causal model will be useless.

4.5.1 Reliability

Reliability refers to the ability of the instrument to provide same results throughout repeated or replicated measurements (Al-Haddad, 2013). It shows the extent to which a measurement gives consistent results. Reliability is measured using Cronbach's alpha and Composite Reliability. Cronbach's alpha indicates indirectly the degree to which a set of indicators or items measures a single latent variable. The value of Cronbach's alpha ranges betweens 0 and 1. The value of Composite reliability also ranges between 0 and 1. Both Cronbach's alpha and Composite Reliability greater than or equal to 0.7 are preferred. Composite Reliability greater than 0.7, reflects good reliability (Hair et al, 2010). However, CR between 0.6 to 0.7 is also acceptable if other indicators of the construct's validity are good (Hair et al. 2006).

4.5.2 Validity

Validity refers to the ability of the instrument to measure the properties that it is supposed to measure (Al-Haddad, 2013). Hair, Black, Babin and Anderson (2010) stated two types of validity:

4.5.2.1 Convergent Validity

Gaskin (2016) stated that convergent validity means that the variables within a single factor are highly correlated. Convergent validity means how well all the items, that are the indicators of the factor or construct should converge or share a high proportion of variance in common. In other words, it means how well all the items say the same things in different words. To test the convergent validity of the measurement model, measures such as Factor Loadings (FL), Composite Reliability greater than 0.7, reflects good reliability (Hair et al, 2010). However, CR having values from 0.6 to 0.7 is also acceptable if other indicators of the construct's validity are good (Hair et al. 2006). Factor loadings should be greater than equal to 0.5. AVE ranges between 0 and 1, and is considered acceptable at a minimum threshold of 0.5 (Fornell&Larcker,

1981). An AVE above 0.5 means that, on average, a latent variable is able to explain more than half of the variance of its indicators (Henseler et al., 2009).

4.5.2.2 Discriminant Validity

Gaskin (2016) opined that discriminant validity refers to the extent to which factors or constructs are distinct and uncorrelated. Discriminant validity ensures that a construct measure is empirically unique and represents phenomena of interest that other measures in a structural equation model do not capture (Hair et al. 2010). Traditionally, there are two ways for testing the discriminant validity, the Fornell and Larcker (1981) criterion and cross-loadings by Chin (1998), where the former is performed on the construct level and the latter is performed on the measurement item level. Another method to assess discriminant validity is the measurement of cross-loading. The loading of an indicator or item on its assigned latent variable should be higher than its loadings on all other latent variables or factor or construct. However, Henseler, Ringlr and Sarstedt (2015) argued that neither the Fornell-Larcker criterion nor the assessments of cross-loadings are able to detect a lack of discriminant validity of the measures in variance-based SEM.

4.6 Structure Equation Modeling

Using a combination of statistical information and qualitative causal hypotheses, SEM is a statistical approach for estimating and testing causal links between independent and dependent variables. In this study, the literature showed that four key elements of consumer satisfaction with the quality of e-banking service are efficiency, reliability, security and privacy, as well as responsiveness and communication. As a result, a study was done using revalidated scales to determine how the quality of the e-banking service affected consumer satisfaction.The above scale factors show the second part of the study and sought banking customers' view about variables under study. Such client perceptions are measured using a likert-type scale with 1 through 5, 1 is being strongly disagreed and 5 is strongly agree. The first part of the research was designed to collect some important personal data from the respondents, such as education, age, gender, income level, time and frequency of e-banking usage. Some factors are using as control variables assessing any probability impact on the dependent factors.

AMOS (21) is used to describe the data, and a sample size of 100 to 150 numbers was deemed appropriate for the covariance-based structural equation model (Tabachnick&Fidell, 2001). Two key objectives of the structural equation model are:

Understanding the correlation/covariance patterns among a group of components is step one. Step two is to use a special model to explain as many of those elements as you can.

4.6.1 Initial Measurement Model

When CFA was performed on the initial measurement model, results could meet the criteria of reliability and validity. Table 4.9 shows that the initial number of items in the construct Efficiency and Security and Privacy were 3. The items under Reliability, Responsiveness and communication and Customer Satisfaction were 5. The composite reliability (CR) of all factors more than 0.7. Moreover, the AVE of all factors value are more than 0.5 which should be above 0.5 as per the criteria of Fornell&Larcker (1981). Thus, there are not issues of convergent validity but model fit indicator issues.

Table 4.9Reliability and Validity of Initial Measurement Model

Factors	Items	CR	AVE	MSV
Efficiency	6	0.864	0.628	0.79256
Reliability	5	0.725	0.509	0.71358
Security and Privacy	6	0.937	0.764	0.8742
Responsiveness and Communication	5	0.837	0.623	0.7891
Customer Satisfaction	5	0.919	0.752	0.86714

4.6.2Final Measurement Model

Since the initial measurement model had the validity issues, a need for improved measurement model arose. In order to achieve the best fit model, trial and error method was adopted. At first, outliers were identified by using AMOS version 24. AMOS produces composite outliers unlike SPSS. The outliers were identified on the basis of Mahalanobis distance. The values that are less than 0.01 and 0.05 come under outliers (Mahalanobis, 1936).

Outliers that were less than 0.05 were removed. Total nine outliers were removed. Initial measurement model had 27 items observations. After removing nine outliers, total number of observations became 25 items. Thus, the items having factor loadings greater than 0.5 were kept and those less than 0.5 were deleted. The item E6 and R2 were deleted since the factors loading of both were less than 0.4which was very low. The proposed and estimated models differed, and modification indicators indicated fixes. Higher levels of the standard residual covariance were scrutinized for their potential to severely reduce the model's fit.EF1 & EF4 and CS2 & CS5 were covariate, fixing the model fit; four items in latent variables were covariate. As a result, model fit indices were better. The improved measurement model is presented in Figure 1. Improved reliability and validity results are presented in Table 4.9, Table 4.10 and Table 4.11. Model Fit Indices are presented in Table 4.12.

4.6.2.1 Reliability and Validity Results

Table 4.6 shows the factor loadings of the items of the latent constructs and the Cronbach's alpha. The Cronbach's alpha of Efficiency is 0.842, of Reliability is 0.866, of Security and Privacy is 0.846, of Responsiveness and Communication is 0.799, and of Customer Satisfaction is 0.845. All the values are equal to and greater than 0.8 indicating that the instrument is reliable and fit for analysis.

The measurement model is used to evaluate the validity and reliability of the connections between the items and the latent components. The validity and reliability tests strongly produced the results, which are displayed in Table 4.10. Explain of the result data appears below.

The measuring model assesses various aspects of reliability and validity, including composite reliability (CR), convergent validity, and discriminating validity. In the measurement model CR test and measures the reliability of the constructs. It judgment the internal consistency of the construct scales that were using in the research instrument (Hair, Black, Babin, Anderson, &Tatham, 2010)

Table 4.10 Factor Loadings and Cronbach's alpha results

Factors	Items	Standardized loading	Cronbach's Alpha
Efficiency	EF5	0.804	0.843
	EF4	0.941	
	EF3	0.951	
	EF2	0.775	
	EF1	0.720	
Reliability	R5	0.795	0.866
	R4	0.851	
	R3	0.933	
	R1	0.878	
Security and Privacy	S6	0.922	0.846
	S5	0.870	
	S4	0.811	
	S3	0.822	
	S2	0.767	
	S1	0.877	
Responsiveness and Communication	RC5	0.753	0.799
	RC4	0.764	
	RC3	0.778	
	RC2	0.852	
	RC1	0.842	
Customer Satisfaction	CS5	0.876	0.845
	CS4	0.897	
	CS3	0.896	
	CS2	0.705	
	CS1	0.835	

As shown in Table 4.11, the CR scores all items greater than the recommended 0.7 threshold (Hair et al., 2010), Efficiency, Reliability, Security and privacy, responsiveness and communication, customer satisfaction ranging 0.9, 0.9, 0.92, 0.85, & 0.9 respectively, indicating adequate scale reliability.

In the measurement model (figure 1), convergent validity was evaluating through standardized factor loading. The factors loadings demonstrate how indicators of a construct continue to converge on that construct. After deleting items with low factor loadings, the model demonstrates that all factor loadings were higher than the advised cutoff of 0.5 (Byrne, 2016) ranging between form 0.65 to 0.96, convergent validity show the higher level and no any issue.

Table 4.11 Reliability and Validity

Factors	Composite reliability	AVE	Efficiency	Reliability	Security and privacy	Responsiveness and communication	Customer Satisfaction
Efficiency	0.90	0.71	0.84				
Reliability	0.90	0.75	0.62	0.87			
Security and privacy	0.92	0.72	0.20	0.29	0.85		
Responsiveness and communication	0.85	0.64	0.26	0.35	0.64	0.80	
customer satisfaction	0.90	0.71	0.43	0.60	0.45	0.35	0.84

By validating all average variance extracted (AVE) values more than 0.5, which is the recommended threshold for discriminant validity, it is possible to determine whether the research constructs are distinct from one another (Byrne, 2016). AVE is a measurement of the variance that a construct captures in relation to the variance that results from measurement error (Fornell&Larcker, 1981). The AVE scores in this study's items varied from 0.64 to 0.75, indicating that there are no problems with our conceptions' discriminant validity.

By confirming that the square root of each item's AVE exceeded the correlation between that variable and every other variable in the model, discriminant validity was further confirmed (Anderson &Gerbing, 1988,Fornell&larcker, 1981). For SEM like the one employed in the research with AMOS, this criterion has proven to be reliable. According to table 4.11, each reflective concept in this study had an AVE greater than 0.5 (range from 0.8 to 0.84). The AVE demonstrated that each item's construct accounted for the majority of its variance. As a result, convergent validity was confirmed, as shown in Table 4.11. Each item's AVE is displayed on the diagonal and is greater than the correlation between each and every components, demonstrating that there are no problems with discriminant validity.Table 4.11 shows the scores.

Table 4.12 shows that the discriminant validity for the proposed model has been established according to the criteria of HTMT.90 since the values are less than 0.90 as proposed by Henseler et al. (2015).

Table 4.12 HTMT Analysis of the improved measurement model

Factors	Efficiency	Reliability	Security and privacy	Responsiveness and communication	Customer Satisfaction
Efficiency					
Reliability	0.62				
Security and privacy	0.20	0.29			
Responsiveness and communication	0.26	0.35	0.64		
customer satisfaction	0.43	0.60	0.45	0.35	

4.6.3 Fundamentals of Measurement Model

To check whether the measurement model is appropriate for the structural model, following fundamentals of measurement model should be within the threshold.

4.6.3.1 Model Fit Indices

To interpret the overall fit of the hypothesized measurement model to the data of the current study, model fit indices in Table 4.13 should be appropriate. The relevant model fit indices of the measurement model are presented in Table 4.13.

The measurement model was assessed for good fit using standard model fit indices (Hair et al., 2010,Meyers al 2005, Marsh &Hocevar, 1985, Chau, 1997&Bentler and Bonett, 1980) and all model fit indicator result is accepted.

Table 4.13The measurement model fit result

Indices	Symbol	Authors	Criteria	Result	Evaluation
Chi-Square	2	Meyers al 2005	P value >.05	0	Accepted
Square/Degree of Freedom	CMIN/DF	Marsh & Hocevar, 1985	<5.0	0.2673	Accepted
Goodness-of-Fit Index	GFI	Chau, 1997	>.90	0.91	Accepted
Comparative Fit Index	CFI	Bentler,1990	>.90	0.947	Accepted
Approximation	RMSEA	Byrne 2001	<.08	0.066	Accepted
Root Mean Square Residual	SRMR	Hair et al 2009	<.09	0.033	Accepted
Normed Fit Index	NFI	Bentler and Bonett, 1980	>.90	0.918	Accepted

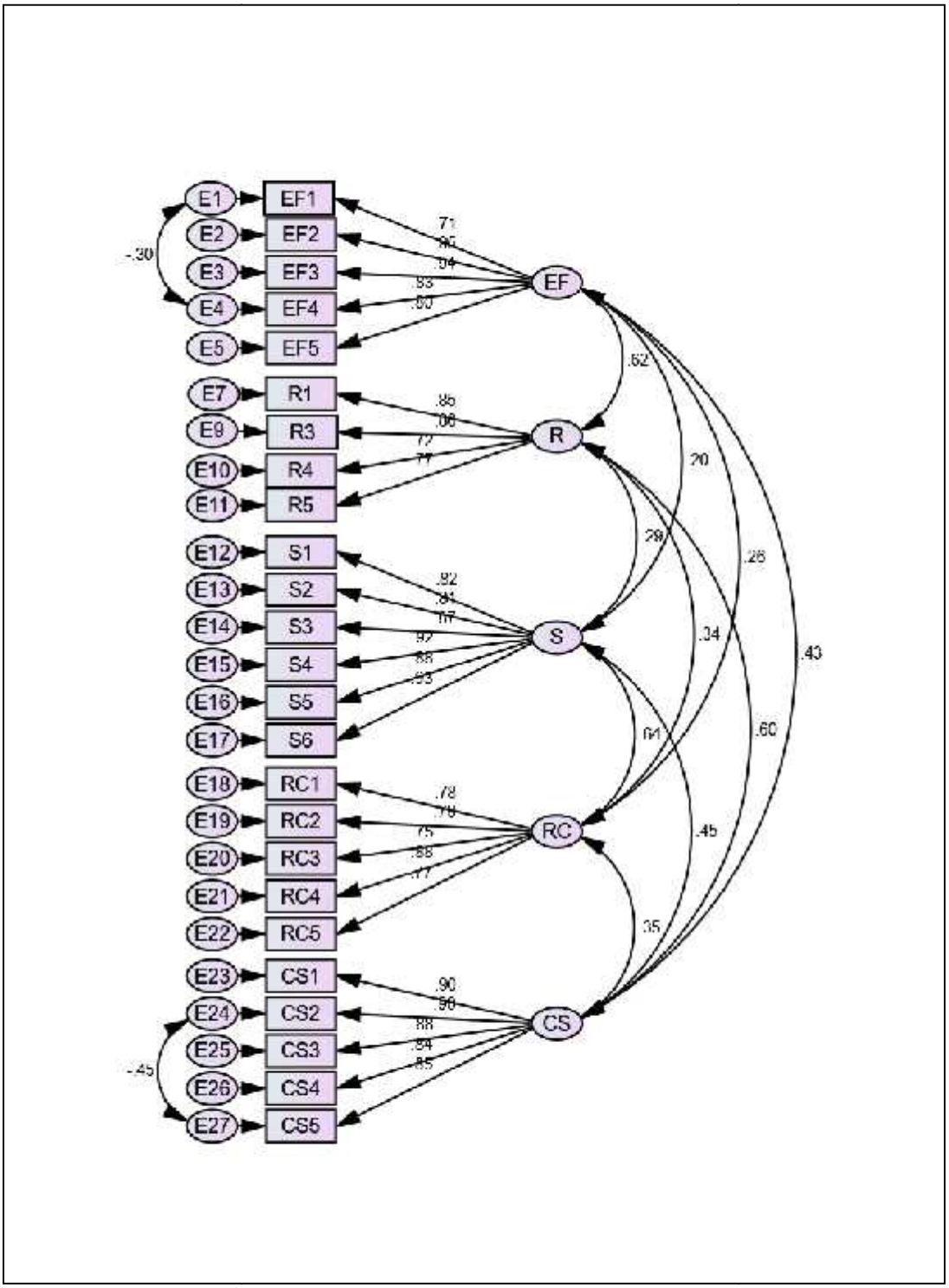

Figure4.1 Final Measurement Model

Note: EF=Efficiency, R=Reliability, S=Security and privacy, RC=Responsivensess and Communication, CS=Customer satisfaction

4.6.4The Structural Model

Four exogenous (independent) variables make up this model: efficiency, reliability, safety and privacy, responsiveness, and communication. Customer satisfaction with service quality is the only endogenous variable of this model.

According to the following suggested standard model fit indicators, this model fit the data well (Hair et al., 2010,Meyers al 2005, Marsh &Hocevar, 1985, Chau, 1997&Bentler and Bonett, 1980). Table 4.14 show the all model fit indicators criteria accepted. So there is no any issue in the model fit indicators. The figure 4.2 show, the structural model is perfectly fit according to the all model fit indicators.

Table 4.14Models Fit Indices of the Structural Model

Indices	Symbol	Authors	Criteria	Result	Evaluation
Chi-Square	χ^2	Meyers al 2005	P value >.05	0	Accepted
Insignificant Chi-Square/Degree of Freedom	CMIN/DF	Marsh & Hocevar, 1985	<5.0	3.148	Accepted
Goodness-of-Fit Index	GFI	Chau, 1997	>.90	0.963	Accepted
Comparative Fit Index	CFI	Bentler,1990	>.90	0.954	Accepted
Root Mean Square Error of Approximation	RMSEA	Byrne 2001	<.08	0.76	Accepted
Root Mean Square Residual	SRMR	Hair et al 2009	<.09	0.034	Accepted
Normed Fit Index	NFI	Bentler and Bonett, 1980	>.90	0.923	Accepted

Additionally, the R-square numbers reveal the structural model's components' degree of predictability. R-square value of the efficiency is 0.4 and reliability score is 0.63, safety and privacy factors score is 0.29 and responsiveness and communication value is 0.29. By the value of the R-square confirming the forecast capacity of the model. In this study, there were four hypotheses on the antecedents of service quality. Figure 4.2 show the all value.

The SEM result show the all e-banking service quality factors are impact on the customer satisfaction. But the result show e-banking service reliability highly impact on the customer satisfaction(standardized beta =0.79) service quality customer view, another factors efficiency of e-banking service positive impact (standardized beta =0.63), then another two factors security and privacy & responsiveness and communication (standardized beta=0.53), the last being the elements that have the smallest impact on the e-banking service quality other factors.

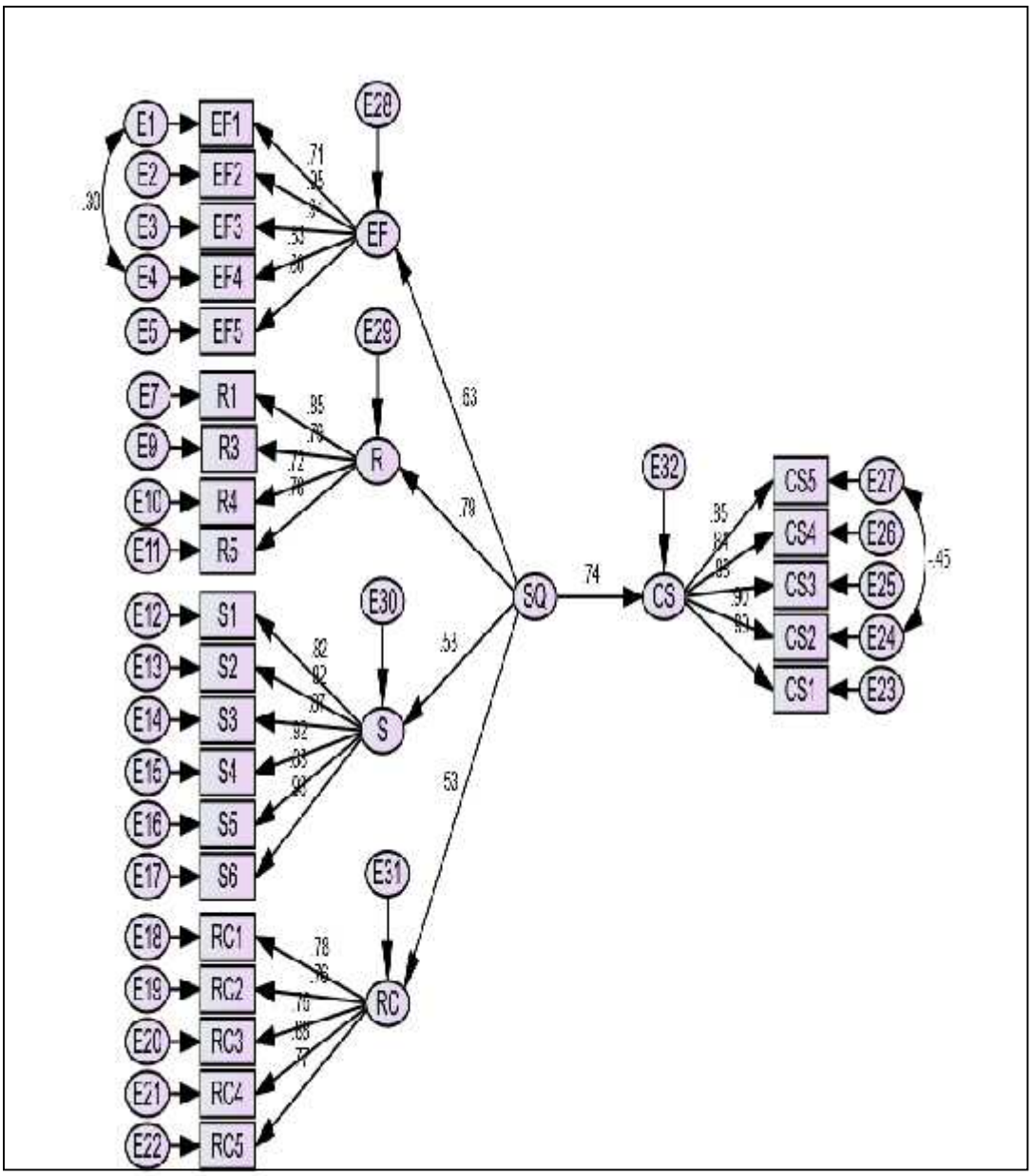

Figure4.2 FinalStructural Models

Note: Ef=Efficiency, R=Reliability, S=Security and Privacy, RC=Responsiveness and Communication, CS=Customer satisfaction, SQ=Service Quality

The nature of the relationship between the aspects of service quality in general and customer satisfaction with Nepalese Commercial Bank's e-banking was also something that needed to be looked into. The primary four hypotheses in this study expected a significant and favorable association between customer satisfaction and the e-banking service quality. The SEM findings confirmed this theory. The strong and positive standardized beta value (=0.74, P=0.000) indicates a direct and significant

influence of service quality on consumer satisfaction with e-banking. Therefore, Table 4.14 show in the study the main hypothesis was supported.

4.7 Summary of the Findings

Based on findings of the data analysis, we can summarize the results and evaluate the outcomes of our hypotheses, deciding whether to be supported or not supported the assumptions taken in the hypotheses. This has been illustrated in the following table.

Table 4.15 *Summary of SEM Results*

Hypothesized relationships	Standardized path coefficient	Predicted direction	Supported / not supported
H1: The effifiency of e-banking service positively affects customer satisfaction.	0.632	+	Supported
H2: The reliability of e-bankign service positively affects customer satisfaction.	0.795	+	Supported
H3: The security and privacy of e-banking service positively affects customer satisfaction.	0.526	+	Supported
H4: The responsiveness and communication in e-banking service positively affects customer	0.525	+	Supported

Note. SEM=Structural equation modeling

The results of this study demonstrated that reliability is the aspect of service quality that has the most impact on customer satisfaction with e-banking services, in addition to the fact that service quality is a component that significantly influences that connection. There is evidence for this in earlier studies. (Hammoud, Bizri, & Baba, 2018).The SEM result indicated that service quality has a considerable and favorable impact on customer satisfaction before it.

Finally, this study demonstrated that customer satisfaction in the Nepalese commercial banking sectors is significantly influenced by the four independent factors efficiency, reliability, security and privacy, as well as responsiveness and communication related to the quality of the e-banking service. Previous studies have validated these findings (Hammoud, Bizri, & Baba, 2018) this experiment

demonstrates the direct connection between consumer satisfaction with Nepalese commercial banks and the dimensions of the quality of the e-banking service.

4.8 Findings and Discussion

The study found out a significant and positive relationship of service quality on customer satisfaction. It indicates that higher service quality of electronic banking leads to a higher level of customer satisfaction.

H_1: The efficiency of e-banking service positively affects customer satisfaction Efficiency of e-banking service is important factors for customer satisfaction. The findings of this study are congruent with research from other markets (Wirtz and Bateson, 1995), Efficiency of e-banking service significant and positive impact of customer satisfaction.

H_2: The reliability of e-banking service positively affects customer satisfaction.

In this study show that reliability has the greatest influence on customer satisfaction with e-banking. This confirms results found in previous research on this topic, impact of e-banking service quality on customer satisfaction in Lebnese banking sectors(Hammoud, Bizri, & Baba, 2018).

H_3: The security and privacy of e-banking services positively affects customer satisfaction.

On the other hand, despite supporting earlier study, the dimension of security and privacy had a positive and significant impact on consumer satisfaction (Hammoud, Bizri, & Baba, 2018),Its influence seems to be less significant than that of the other service quality factors.

H_4: The responsiveness and communication in e-banking service affect customer satisfaction.

Finally, customer satisfaction was directly impacted by the last service quality component of responsiveness and communication, which is identical to the (Parasuraman, Zeithaml, & Berry, 2002). Customer satisfaction with e-banking is positively and widely significant impacted by the prompt response and good communication provided by bank and financial institutions in Nepal.

CHAPTER-V
CONCLUSION AND IMPLICATIONS

The whole report has been divided into five different chapters. Chapter one explains about the introductory part of the study where the background and significance of this study has been described. In this chapter the present context of Internet service and importance of service quality has been analyzed in a micro level to highlight the relevance of this research. Chapter two consists of literature review and conceptual framework where the previous research studies and core findings related to the service quality and customer satisfaction were explained, the theoretical framework of the research was explained and the research gap was highlighted. Similarly, based on literature review, four hypotheses for this research were derived, on which the research was focused. Chapter three explains about the methods and design of data sampling which lead to the procedure of data collection. Chapter four describes about the data analysis and findings of the research relating to the customer perception of e-banking service quality on customer satisfaction.

This chapter describes the conclusion of the findings with reference to previous research results from different scholars and researchers and future implications of the study for further research projects.

5.1 Conclusions

The study investigated the impact of e-banking services quality on customer satisfaction in Nepalese banking industry. Along with that, the study had also analyzed the relationship between electronic banking services quality and customer satisfaction in Nepalesebank sectors. Furthermore, this study revealed that there is a significant relationship between service quality dimension like efficiency, reliability, security and privacy, communication and responsiveness. This finding is consistent with the findings of several previous research studies. It resembles with the conclusion of Hammoud, Bizri, and Baba (2018) which states that the service quality dimensions like efficiency, reliability, security and privacy, communication and responsiveness were found to be directly related with customer satisfaction in long term.

The primary objective of this study was to investigate how customer satisfaction in Nepal's commercial banking industry is impacted by the quality of e-banking services. As was demonstrated in the literature review section, comparable investigations had been conducted for various nations and markets. However, to the author's knowledge, none had been carried out in the commercial banking sector of Nepal. This study used a quantitative methodology and involved distributing surveys among Nepali bank customers. SPSS and SEM with AMOS were used for the data analysis. The four hypotheses in this study were supported by the data, according to the study's findings. Reliability is the key finding of this study and a key factor in how satisfied customers are with e-banking in this particular market.

With e-banking services now infancy stage to Nepal and consequently, still below full development and usage, the result of this study will contribute to a better understanding of what and how Nepalese commercial bank may rapidly advancement in information technologies to develop service that meet the expectations of Nepalese commercial banking customers.

It is advised that this research be continued and ways to improve the reliability of e-banking services, particularly in other areas, be looked at. Furthermore, the definition of reliability may vary across nations and even within a single region, necessitating thorough study of this concept and others in various cultural contexts.

5.2 Implications

The result of this study has some valuable implication for e-banking service providers', scholars, bankers, academicians and researchers in similar field, customers as well as policy makers. This study helps to analyze the service quality of different e-banking service providers and its impact on customer satisfaction.

This study has also given some valuable suggestion to the e-banking service quality about the critical factors which should be focused majorly for improving the customer satisfaction in Nepalese context. This research shows that different service quality dimensions as leverage factor differ in their significance level as the performance indicator. Thus, e-banking service providers should focus on improving quality standard by taking critical factors in consideration, which are highly influential in determining the user perception of Internet service quality. E-banking service

providers should focus more on developing internal strategies that can help customers to exchange feedbacks on their issues more easily and reliably. The firms should develop a good strategy targeted at using more of customer response to maximize their market performance in such a way that it yields growth opportunities.

This study has providing a floor for future researchers to conduct the study incorporating demographic factors of customers. This study is focused on customer satisfaction of bank and financial institutions only. Further, research can be conducted in other sectors including hospitals, insurances, trading, manufacturing and technology.

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APPENDIX

RESEARCH QUESTIONNAIRE

Date: April, 2022

Dear Respondent,

I am conducting this questionnaire survey for discovering quality of electronic banking service and customer satisfaction. My research topic is "AFFECT OF ELECTRONIC BANKING SERVICE QUALITY ON CUSTOMER SATISFACTION IN NEPALESE COMMERCIAL BANKS". Hence, I request you please go through the statements carefully and provide your response as genuinely as possible. Confidently of your response will be maintained. It will take you about 15 minutes to complete this questionnaire survey.

KRISHNA KUMAR PAUDEL

MBM Student,

University Campus, Central Department of Management

Part 1

Please indicate on your Personal Information

A. Your age	1. 18 – 30 years 2. 31 - 40 years 3. 41 – 50 years 4. 51 years and above
B. Gender	1. Male 2. Female 3. Others
C. Length of usage	1. Less than one year 2. 1 to 3 years 3. More than 3 years
D. Your monthly income	1. Below 30,000 2. 30,000 to 60,000 3. Above 60,000
E. Education Level	1. Up to +2 level 2. Graduate 3. Master's Degree and above
F. Frequency of usage	1. Never 2. Once per month 3. Twice per month 4. Three times per month

Part 2

Below are several statements about you with which you may agree or disagree. Using the response scale below, indicate your agreement or disagreement with each item by choosing the appropriate number. Please indicate the extent to which you agree with the following statement:

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

	5	4	3	2	1
QN.1 Efficiency					
The use of E-Banking services are time saving					
The service delivered through the E-Banking services is quick					
Learning to operate the E-Banking system is easy for me					
My Interaction with the E-Banking system is clear and understandable					
I find the E-Banking system to be flexible to interact with.					
E-banking service use are very simple					
QN.2 Reliability					
I have high confidence in the E-Banking services in the bank					
E-Banking service is reliable and dependable					
E-Banking services perform for me the service right on the first time					
I have always found E-Banking service channels in working order					
I prefer using E-Banking services instead of visiting the branch					
QN.3 Security and Privacy					
E-Banking services do not allow others to access my accounts					
E-Banking service provides high protection for my banking transactions					
E-Banking service is secured and safe from any fraud or hacking					
The security devices of the E-Banking services protect the data that are sent by me.					
E-Banking services offers secure personal privacy					
I feel secure while making transactions through the Internet					

QN. 4 Responsiveness and Communication					
E-Banking services are available 24/7					
E-Banking services respond immediately to customer requests					
Help is immediately available if there is any problem					
E-Banking services provide answers to your questions					
Bank deals gently with customer complaints about electronic service					
QN.5 Customer Satisfaction					
I am satisfied with the transaction processing via E-Banking services					
I will strongly recommend other to use the E-Banking services					
My satisfaction with the E-Banking services is high					
I am satisfied with the bank's e-services quality					
Overall, E-Banking services is better than my expectations					

THANK YOU