

**SERVICE INNOVATION, SERVICE DELIVERY AND  
CUSTOMER SATISFACTION IN NEPALESE COMMERCIAL  
BANKS**

BY

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## **Recommendation**

## **Certification**

## **Declaration of authenticity**

I, Smriti Shree Shrestha, declare that this GRP is my own original work and that it had fully and specifically acknowledged wherever adapted from other sources. I also understand that if at any time it is shown that I have significantly misinterpreted material presented to SOMTU, any credits awarded to me on the basis of that material may be revoked.

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## Abbreviations

ATM	Automatic Teller Machine
BFI's	Bank and Financial Institutions
CDT	Cognition Dissonance Theory
Connect-IPS	Connect Interbank Payment System
CS	Customer Satisfaction
EDT	Expectancy Disconfirmation Theory
E-Wallet	Electronic Wallet
GRP	Graduate Research Project
NRB	Nepal Rastra Bank
SC	Service Concept
SD	Service Delivery
S-DL	Service Dominant Logic
SERVQUAL	Service Quality
SI	Service Innovation
SMS	Short Message Service
SP	Service Process
SPSS	Statistical Package for Social Scientist
T	Technology
VIF	Variance Inflation Factor

## **Executive Summary**

Innovation is the business in itself. Innovativeness in Service through, service concept, the way of delivering services and Techno-friendly services has caught the eye of the customers. In this dynamic and complex business environment, it essential to have competitive advantage with the services delivered adapting Innovativeness in the services.

In order to identify these objectives, the research study is conducted with the general objective to examine the effect of service Innovation and service Delivery in customer satisfaction in the Nepalese Commercial Banks of Kathmandu Valley. The study uses three dimensions of Service Innovation, which includes Service Concept, Service Process and Technology. Furthermore, the mediating role of Service Delivery on the effect of Service Innovation and Customer Satisfaction was studied.

Descriptive research design has been adopted for the sample size of 355 respondents from the various customers of the commercial banks in the Kathmandu Valley. A Convenience- based Sampling method has been used and data was collected through the Online Platform from the set of questionnaires.

Descriptive statistics along with correlation analysis, regression analysis, and bootstrapping are done to analyze the collected data. The descriptive statistics show that age group between 21-40 have been using the banking services more frequently, and also, the respondent preference on the services from the commercial bank are ATM card, Mobile banking, SMS Services, Internet Banking, Online Customer Service and Digital Wallet in the study area. Furthermore, there is a significant impact of Service Innovation dimensions on the Customer Satisfaction of Commercial Banks in Kathmandu Valley. When the mediating variable, Service Delivery was introduced to the model, the direct impact of Service Innovation on Customer Satisfaction is significant and in presence of mediating variable the indirect impact of both variables on Customer Satisfaction is significant which signifies full mediation exists. Based on the findings, Commercial Banks should also focus on the Service Delivery with the Innovations to create the competitive advantage in the service to ensure the customer satisfaction.

# CHAPTER I

## INTRODUCTION

### 1.1 Background of Study

In today's globalized and competitive marketplace, Organization has been rigorously searching for the innovativeness in service offering and enhancing the current products and services. In the meantime, the innovativeness has played an important part to the businesses trying to compete with the increased pace of the changing environment. Also, considering the fact that, the innovation is recognized as one of the main drivers of long-term business success (Yusheng & Ibrahim, 2019), (Mahmoud, Anim & Hinson, 2018) and (Darroch & McNaughton, 2002). We have seen those businesses fostering who have adapted to the environmental changes with the innovativeness. Banking sector, has successfully stand as an example, reciprocating to the customer needs and desires in the pandemic situation and approached with the customer using the innovative services timely.

Innovation has become a competitive advantage for the highly competitive banking sector. Banks therefore has to be responsible for the maintaining cordial relation with the customer's satisfaction as well as the shareholder profitability with mutual balance. Innovation is the only way through to achieve the desired consequences of retaining the customer and standing out from the volatility of the banking industry. Prahlad and Hamel (1990) have expressed in their words, that innovation helps to differentiate from the competitors and providing the competitive offerings in the markets than other. So, in order to ensure stability in the modern dynamic environment, innovations and inventions should be part of all the business. In the near future, banking services will be automation; the banking industry will be a fully automated industry. The individual currently operating in the Banking industry will play the role of covertly delivering services.

Innovation is the practice for search of developed and advance solutions to customer needs and expectations that create additional value (Vargo & Lusch, 2004), (Michel, Brown & Gallan, 2008). Far back from Schumpeter's time (1934) until today, innovation is recognized as a major contribution to value creation. It gives companies a greater competitive advantage through enhanced customer satisfaction.

Similarly, in the Bank, the delivery of services through innovation plays an important role in the organization's performance by ensuring client happiness. Banks are currently investing in innovation to improve service quality, particularly service delivery, in response to consumer needs, with the goal of improving consumers' experiences with banking services. ATMs, telephone banking, online banking, and mobile banking are examples of these advancements. Consumers will no longer need to go to the bank to use financial services as a result of this invention.

Banking innovation allows anyone, anywhere, at any time, to conduct business and use other banking services. The Nepalese banking industry started adapt to new technologies and innovative service offering only a few decades ago. Early 1900's, there were only few banks and financial institutions operating in our country. In initials, ATM was introduced by Nabil Bank. Since then, Innovation and Invention has begun to pave its way, focusing on customer service and other banking services. Following in 1995, Himalayan Bank introduced an ATM and a Nepalese credit card in the Nepalese market. Kumari Bank in 2002 pioneered the use of e-banking (internet banking) in Nepal. Laxmi Bank then, introduced SMS banking (mobile banking) to our country for the first time in 2004. The innovation was introduced with medium of Internet which brought about the change from traditional banking to digital banking. Digitalization therefore is a continuous and gradual process to refine the level of banking services.

Currently, there are 144 Banks and Financial Institutions with several branches dispersed all over the nooks and corner of the country, regulated by Nepal Rastra Bank (NRB). They are operating through different branches all around the nation. The Banks and Financial Institutions (BFI's) at the initial only were limited to the certain part only. World Bank in their report has stated that BFIs was only confined to big cities and was away from the deprived people. Now, the numerous branches of the BFI's have reached nooks and corner of our country. The transaction is carried out and reported through the innovative networking system. Extension counter, Branchless Banking, Mobile banking, ATM cards and Internet Banking are the services are provided by all the commercial banks. Most of the financial Institutions are yet to adapt with these services.

Banking rivalry in Indonesia has developed to a higher level, with a determination to continue to improve their network. Due to the high level of rivalry, each bank must deal with its own set of obstacles in order to survive. Increased competition will result in

better service delivery and higher customer satisfaction. As a result of competitive pressures, banks must implement new technologies in order to improve service delivery and lower operational costs. These innovations also aid in the development of positive customer connections, ensuring that customers are satisfied (Vivie N.P. Rantianti, R.E. Halim., 2020)

## **1.2 Statement of the Problem**

The banking services industry has changed a lot over the past few decades. Lately, the banking industry without service Innovation can no longer be trusted and could lose its competitive advantage. The services in the banking sector are similar and the differentiation can only be made through the uniqueness of the service provision to the customers to their satisfaction. Service innovations have been in the market for more than a decade, but the research and experimentation into their concept and perspective is still vague.

Regardless matter how important it is to use new technologies to improve business processes, these innovative solutions come with their own set of issues. The importance of innovation has been frequently stated in today's competitive economy, but it is not without its problems, according to Domeher et al. (2015) and Dhakal (2020). Intermittent system failures, network issues, malfunctioning ATMs, and other issues lead to consumer turnover, unhappiness, and loyalty, among other things. As a result, banks must identify relevant innovations that are required to deliver effective service to their customers, as well as techniques and strategies to successfully manage these innovations in order to reach the intended goals and objectives.

There have been relatively few previous studies undertaken by various experts and researchers since the 1990s. Several scholars, including Schumpeter (1934), Drucker (1988), Hurley and Hult (1998), Den Hertog (2010), Crossan and Apaydin (2010), Zainal Abidin et al., (2011), Karabulut (2015), Rajapathirana and Hui (2018), YuSheng and Ibrahim (2019), discovered that innovation has an impact on a bank's customer satisfaction and loyalty. Given the emergence of bank innovations in different parts of the world, the purpose of this study is to determine the influence of service innovation on customer satisfaction in the Nepalese banking industry.

Despite the need to address this topic due to the greater scope of service innovation and the urge to integrate supply chain into the innovation process, Chen, Tsou, and Huang (2009) noted a deficiency of research on the relationship between innovativeness and delivery.

The customers are satisfied only if the services of the banks are timely, accurate and efficient. There are many studies conducted on the customer satisfaction towards the service delivery of banks but not much study has been conducted in case of Nepalese banking sector. (Dhakal, 2020)

Many researchers develop their understanding-based comparison of past and current research to discover the precise judgement of service innovation, service delivery, and customer satisfaction in upcoming literature review. The study has impact on innovation of customer satisfaction was major focus for the following sector i.e. IT, manufacturing and hospitality industry about organizational performance and lack the customer satisfaction.

Innovation research in the financial sector is pretty countable in the hands as there are few and most were only introduced about a decade ago. The research in connection with the service innovation of the Nepalese Banking sector has not yet been explored yet. As a finance student, trying to explore reciprocal factors in business was the concern. The study therefore deals with Nepalese Banking Sector and the service innovation and delivery towards the customer's satisfaction.

Therefore, to fulfill the gap between those studies, this study has combined the conceptual framework from YuSheng and Ibrahim (2019) and Dhakal (2020). Thus, the purpose of this research is to investigate the influence of service innovation and service delivery in customer satisfaction and in the Nepalese banking industry.

### **1.3 Research Question**

The Research Questions for the report are stated as follows which is aligned to the objectives and hypothesis framed:

1. What is the impact of the service innovation in the customer satisfaction of Nepalese Commercial Banks?



2. What is the relationship between Service Innovations, Service Delivery and Customer Satisfaction?
3. Does Service Delivery mediate in between Service Innovation and Customer Satisfaction in the Nepalese Commercial Banks?

#### **1.4 Research Objectives**

The study aims to determine how service innovations influence customer satisfaction in the Nepalese banking industry. It also seeks to determine whether Service Delivery influences the relationship between Service Innovation and Customer Satisfaction.

The objectives of the research are:

- i) To examine the impact of Service Concept on Satisfaction of customer of the Commercial Banks.
- ii) To examine the impact of Service Process on Satisfaction of customer of the Commercial Banks.
- iii) To examine the impact of Technology on Satisfaction of customer of the Commercial Banks.
- iv) To evaluate the mediating role of Service Delivery in between Service Innovation and Customer Satisfaction of Commercial Banks.

#### **1.5 Research Hypothesis**

Based on the conceptual framework, the study seeks below stated hypothesis as the primary objectives of the study:

- H1: Service Concept has significant and positive impact on Customer Satisfaction.
- H2: Service Process has significant and positive impact on Customer Satisfaction.
- H3: Technology has significant and positive impact on Customer Satisfaction.
- H4: Service Delivery mediates the relationship between Service Innovation and Customer satisfaction.

## **1.6 Significance of the Study**

The research on this topic was conducted in numerous industries around the world in order to gather insights that influence the understanding of service innovation, service delivery, and customer satisfaction. The study contributes significantly to knowledge and seeks to uncover solutions; it serves as a foundation for future research. Also, to explore academic and practitioner questions about service innovation, service delivery, and customer satisfaction in the Nepalese banking industry. Without a doubt, the findings of this study add significantly to the limited current literature on service innovation and customer satisfaction in Nepal. The findings of this study and recommendations are also critical for the banking sector to include client perspectives on how they actually communicate with banks.

## **1.7 Limitations of the Study**

There are limitations to every research conducted. Some of the limitation identified for this research is mentioned below:

- All the banking institution doesn't provide the Innovative services, only Class A Banks provides the wide range of service with innovativeness in the service delivery.
- It focuses only on the customer of "A" class Commercial Banks of Kathmandu Valley, so, it cannot be generalized to other sectors.
- The study has used the cross-sectional design which explains relationships about variables at one point in time. Further research can be conducted to examine how these relationships develop at different points of time using a longitudinal design.

## **1.8 Structure of GRP**

The research is divided into three sections: the preliminary part, the report body, and the supplementary portion. The title page, certification, statement of authenticity, acknowledgment, table of contents, list of tables, list of figures, acronyms used, and executive summary comprise the preparatory portion. The report is organized into five chapters: introduction, linked literature and theoretical framework, research methods, analysis and results and discussion, conclusion, and implications. The report's final

portion includes references and an appendix. Furthermore, the research is displayed and organized in five chapters. These are their names:

The first chapter of the study provides a brief overview of the study's topic. It explains what the project work entails and why the initiative is worthwhile. This chapter defines the broad problem objectives, introduces the project topic, and explains why the challenge is worthwhile to solve. Other subtopics include the study's aims, research questions and hypotheses, definition of words, constraints, scope, and relevance.

This second chapter includes a review of past publications and studies related to the subject being investigated, as well as the framework of the conceptual structure. It gives a summary of past researchers' significant results under separate sections. It describes why each work of writing was chosen and how it aided in the development of the theoretical framework and the identification of the problem statement required for the investigation.

The third chapter discusses the research methods used in this study, as well as the variables and statistical tools used to assess the hypotheses. It comprises research design, population and sample, instruments, data sources, data gathering methods, and data analysis.

The fourth chapter is dedicated to analysis and outcomes. This chapter analyzes the data gathered and attempts to determine the relationship between various parameters identified for the research, which is presented using tables. It determines the interaction of dependent, independent, and mediating variables. The following section displays the primary conclusions from data analysis that are predetermined as study objectives.

The fifth chapter, which summarizes the overall research findings and forwards relevant recommendations based on the study's conclusion, includes debates, conclusions, and implications. Shows the study's practical implications as well as a potential research field. Apart from that, the GRP report concludes with references and appendices.

## **CHAPTER II**

### **RELATED LITERATURE AND THEORETICAL FRAMEWORK**

This chapter elucidates existing theories and past literatures to emphasize this study. Following that, the literature study includes both theoretical concepts and empirical data on the impact of Service Innovation and Service Delivery on Customer Satisfaction in the context of the Nepalese Banking Industry. This chapter outlines the theoretical and empirical studies that will help it achieve its goals.

#### **2.1 Theoretical Literature Review**

The theoretical background for this study is based on two key theories: Expectation Disconfirmation Theory and Service Dominant Theory. Both Service Dominant Theory and Expectation Disconfirmation Theory are major modern approaches adapted for the inspection as well as the study purpose of innovation, services, and satisfaction research (Flint et al., 1997), and (Flint et al., 1997), (Flint et al., 1997), (Pappu and Quester, 2016), and (Wilden, R.et al., 2017).

##### **2.1.1 Service Dominant Logic Theory**

The evolution of service industry after the long-survived manufacture industry with Goods dominant logic used to be relevant. It reflected the production of tangible goods by hiring the huge labour manpower in the factory. The goods were being transported to the customer's place and taking control over the producing process. Service Dominant Logic Theory was evolved after the evolution of importance of services and cutting the drawback of controlling the old school thoughts of over powering customer demand. Rather, service dominant provided with the quality service delivering customers with the competitive advantage.

According to Vargo and Lusch (2004), Service Dominant logic refers as the delivery of goods from one actor to another actor using competitive difference to create uniqueness in the service delivered. Zacharia et al. (2011), further interprets that it focuses on the process of providing quality services in exchange of any products and services.

S-D logics further bring the new insight with the mutual relation among the service delivery and innovations. The provided difference by the scholars on Goods dominant and Service dominant is only the products and services offered to the individuals. Where, the service innovation brings the broaden and transcend view for service innovation

Service Dominant logic is profound by economic scholar Frederic Bastiat. The researcher believed that the all individual uses the skills and competencies when offering service to the others individuals. Alike, banking institutions provide with the competitive services and uniqueness in their products and offer the customer in exchanges of their satisfaction with the products.

### **2.1.2 Expectancy Disconfirmation Theory**

The Expectation Disconfirmation Theory explains how satisfied customers are with the launch of a new product or service offering. The Expectation Disconfirmation Theory is based on Leon Festinger's description of Cognitive Dissonance Theory, which he established in 1957 to explain how dissonances between a person's cognition and reality affect later cognition and/or action (Bhattacharjee & Premkumar, 2004). EDT calculates customer satisfaction based on the gap between customer expectations and actual experience with perceived products or services (Oliver, 1980) and (Patterson et al., 1996).

Expectation Disconfirmation Theory has been used in a variety of fields, including marketing (Oliver, 1980), (Diehl & Poynor, 2010), (Santos & Boote, 2003), tourism (Fallon & Schofield, 2003), psychology (Gotlieb, Grewal & Brown, 1994), Information Technology (Bhattacharjee et al., 2004), (Hsu, Yen, Chiu & Chang, 2006), and (Khalifa, Customers organize their expectations before purchasing or using an offer, according to Expectation Disconfirmation Theory. These expectations help as a frame of reference when reviewing actual impressions of performance. The Expectation Disconfirmation Theory core idea is that customers organize their expectations before purchasing or using an offer. When reviewing actual impression of performance, these expectations serve as a frame of reference.

Prior to purchase or use, customer satisfaction is measured by a comparison of perceived performance and expectations. There are three possible results during this phase: the customer is satisfied, indifferent, or dissatisfied with the new product or service.

Customers are satisfied with a service offering if it satisfies perceived consumer expectations through innovation and high-quality service delivery.

The research in the next part produced a conceptual framework for this study based on these ideas in order to attain the research goals.

## **2.2 Empirical Studies**

### **2.2.1 Service Innovation**

Services are defined as behaviors, operations, and performances delivered or collaborated by one individual or institution for another individual or institution, according to Zeithmal, Parasuraman, and Malhotra (2002). The features of services, are intangibility, inseparability, perishability, and variability, which have been used by renowned scholars such as Zeithmal et al. (2002), Lovelock and Wirtz (2007), and Sampson and Spring (2015) to differentiate services from physical products. Intangibility also makes it difficult for service providers to effectively communicate the positive consequences of their services (Lovelock & Wirtz, 2007). The inseparability of services explains in part why it is so difficult to separate the service provider from the service. According to Zeithmal et al. (2006) and Jaw et al. (2010), the inability to supply a service at the correct moment results in the loss of that particular opportunity at that particular point in time. The term variability refers to the fact that services are not always delivered in the same way (Lovelock & Wirtz, 2007).

The major difficulty occurs while segregating service offered from the service provider. It is explained to be the major and unique characteristics service rendering organizations. According to Zeithmal et al. (2006) and Jaw et al. (2010), unable to deliver service at the given period leads in the loss of that opportunity available at that time. Because services are always changeable with the individual and the requirement, they are not necessarily performed in the same methods at all periods.

Schumpeter (1934) has defined the service innovation, as a new approach of doing things with a unique mix of production elements in the services. The Schumpeter's presented innovation on a broader view with the five essential elements i.e., product innovation, process innovation, management innovation, organizational innovation, and marketing

innovation. This dimension was the early proponent from the Schumpeter for the measurement of service innovation.

Drucker (1988) defined innovation as "dedicated and committed activity aimed at realizing organizational changes that improve economic or social potential. The researcher underlined the importance of innovation in the development of organizational growth. In Nonprofits, improved service quality and faster delivery are examples of growth; in for-profit enterprises, cost reduction, decrease costs, and increased sales are examples of growth.

According to Damanpour (1996), innovation would be a whole or partial change in a company's activities, methods, and outcome that allows it to integrate to the outside world. A look back at the term's history since the 1960s reveals how it was first associated with the manufacturing of new things. Damanpour & Schneider (2006) argue that innovation must have both social and economic value since it is the sum of both social and technological processes. The author defines innovation in this context as the development of new ideas, procedures, and technologies which lead to a shift in an organization's performance, process, or design, as well as contribute to the social and economic environment of the company. The above description offers a complete and holistic perspective of innovation by attempting to encompass the various dynamic characteristics of innovation.

Despite the enormous potential for increased economic prospects, it has been difficult to relate innovation to the service industry until recently. Innovation research in the service sector has recently received a lot of attention (Miles, 1993), (Gallouj & Weinstein, 1997), (Den Hertog, 2000), (De Jong, Bruins, Dolfisma & Meijaard, 2003), and (Den Hertog, 2010), as it is now seen as the main engine of economic growth and crucial for the competitive market (Cainelli, Evangelista & Savona, 2005), and (Kunttu, 2013). They see innovation is the key of organisational effectiveness since they can offer cheaper, faster, and higher-quality new services, and they typically profit financially from it (De Jong, Bruins et al., 2003).

As a matter of fact, the literature on service innovation is growing into a varied and cross-disciplinary body of knowledge that spans fields such as economics, marketing, organizational science, and management. As a result of the diversity, services are being transformed in a number of ways, from how they are created and produced to how they

are provided and managed (Miles, 2005); (Trott, 2012). This as logical consequence of its multifaceted nature and the excessive number of services offered in the industry, service innovations take a wide range of characteristics. (Sundbo, 2007), (Rubalcaba et al.,2012), (Ostrom et al., 2010) and (Miles, 2010).

Green Halgh and Rogers (2007) define service innovation as "a combination of product innovation, which refers to the introduction of a new product or a significant qualitative change in an existing product," and process innovation, which refers to the development of a new method for producing or delivering goods and services."

We utilize a broader definition of service innovation in this thesis since it does not need the introduction of a new service. "A service innovation is a new service experience or service solution that consists of one or more of the following dimensions: new service concept, new customer interaction, new value system/business partners, new revenue model, new organizational or technological service delivery system, based on the most recent Den Hertog et al. (2010).

### **Dimension of Service Innovation**

Given the shifting nature of the phenomenon (Flikkema, 2008), the researchers used at least three methods to describe, assess, and explain service innovation (Chamberlin et al., 2010). The three techniques are assimilation, demarcation, and synthesis (Vos, 2010), (Leich et al., 2010), and (Witell et al., 2016).

The assimilation method focuses on technological improvement. Service innovations can sometimes be associated with manufacturing innovations; for example, Tether (2005) and Flikkema (2008) argue that the design and usage of technologically sophisticated products should be evaluated using manufacturing methodologies and frameworks.

Second, the demarcation approach distinguishes service innovation from manufacturing, allowing new theories, tools, and indicators to be developed to understand innovation in service contexts. According to Hanusch and Pyka (2007) and Leich et al., (2010) traditional assessment of activities such as R&D workers and spending leads to an underestimation of innovation efforts in the service industry. Researchers who use the demarcation approach to propose theories of service innovation, according to Gallouj and Weinstein (1997) and Toivonen and Tuominen (2009), rely on Schumpeters' (1934) meta



description of innovation, that does not include any innovation Aspect as a core aspect of service innovation.

Finally, the Synthesis technique, often known as the "integrative approach," recognizes the increasing blending of services and material objects (Gallouj and Savona, 2009). This indicates that tangible commodities are becoming more essential in the Industrial sector, whereas intangibles are becoming more important in the Service sector (Miles, 2007), (Dolfsma, 2004), and (Miles, 2007). (Shelton, 2009).

In contrast to the previously described innovation typologies, Den Hertog proposed a four-dimensional model (2000). This intended to be used as a foundation for analyzing service innovation. It was discovered using the Hertog model that service innovation occurs as a result of at least one or more changes in four metrics i.e., service concepts; client interfaces, service delivery, and technology are among the metrics used. The typology was used in this study. Den Hertog's (2000) contributions are being used to characterize service innovation. On the basis of this review, the dimensional model of Den Hertog (2000) is updated and used for our study as well. It is receiving more attention and acceptance in the innovation literature, demonstrating that it is a new and different way to look at service innovation. Interpretation of the Den Hertog (2000) four service innovation dimensions is outlined below.

### **1. Service Concept**

The service concept is the first dimension. The amount of uniqueness in service innovations varies; while a certain service concept is quite well in other market, the significant thing is that it be innovative when exposed to a particular market. Consider banking services, for example, All banks offered the same products and facilities to their consumers, but the uniqueness in the banking service offered by each banks differs (Mahmoud, A.M., Hinson, R.E. and Anim, P.A., 2018).

### **2. Client Interface**

The client interface is the second dimension from Den Hertog (2000) Dimension. Banking innovation began with ATMs, then progressed to mobile banking and electronic banking. It transformed the way services are delivered and how we engage with our banks, as well as introducing a significant amount of self-service, as most services are

delivered via virtual medium via an online network, such as Connect IPS and E-wallet. When a business service is supplied to assist or innovate, the dimension underlines the interaction process between banks and customers as an essential source of innovation.

### **3. Technology**

Technology in Innovation has evolved lately. It was more inherent in manufacturing (Kandampully, 2002). In present context, technology and services go hand in hand. Most of the research contains the combine study of technology and services innovation and resulted positive. Den Hertog (2002) asserted that service innovation is possible without technological innovations but they often go together. Banking Sector is adapting to the innovation since 1990's. The boon of the technological advancement in banking sector is the service offerings with similar products among banks in distinctive way.

### **4. Service Delivery**

Service delivery, according to Den Hertog (2000), is another component of service innovation as it pertains to the service company's organizational structure; competent management to allow service people to accomplish their tasks correctly, as well as produce and offer unique services to clients. New services, for example, may demand new organizational structures, (inter)personal skills, or teamwork abilities. The growing use of home shopping services and online banking in banking services is an example of service innovation's delivery system as an organizational component that is still changing.

The dimensions of client interface and service delivery of service innovation have certain commonalities, according to the literature mentioned above. These dimensions necessitate adjustments throughout client interactions, service design, production, and delivery. The service delivery dimension is also considered as a distinct cooperation type in the client interface. Changes in the client interface will correlate to changes in the organizational structure on the inside. Based on previous arguments and from the perspective of customers, the new customer interaction and new organizational delivery system components of service innovation may be seen as one aggregated dimension, labeled the new service process (Anim, 2017).

Thus, conducting within the scope of this study, service innovation has conceptualized and operationalize multi-dimensional construct from Den Hertog that includes four main constructs, where the study has under taken further with Service Concept, Service Process, and Technology for measuring the service innovation.

### **2.2.2 Service Delivery**

Den Hertog's (2000) model incorporates the Service Delivery system as dimensions for SI for business models using a mixture of the Assimilation and Demarcation approaches. Furthermore, it is a well-established relation of Service Delivery to have a connection with SI, which leads to customer satisfaction through enhancing the efficiency of new products and services.

The extent to which customers are satisfied or dissatisfied with service quality varies based on the service receiving experience. According to a model, customer perception is influenced not only by the nature of the product and its physical aspects, but also by the characteristics of the service-delivery process (Oliver, 1977).

The purpose of service innovation (SI) in the relationship between SERVD and CSAT and loyalty in Ghana's banking business was proven in YuSheng. K. and Ibrahim. M.'s (2019) study using the SI, SERVD, CSAT, and CLTY. The finding, when applied to bank customers, was that innovation adoption may not be enough to alter their satisfaction and loyalty unless it can improve service delivery by providing adequate service. In this study, the researchers utilized a self-developed instrument (SI) to assess the level of service innovation adoption.

The critics of SERVQUAL, as according Emari, et al. (2011), stand it out that the measure focuses primarily on the service delivery. Many studies have used the SERQUAL, including Arshad, A.M., & Su, Q. (2015), YuSheng and Ibrahim (2019), and McClelland, R. et al. (2020). Because quality service and customer satisfaction are intimately connected, service delivery is an important factor.

According to Nguyen et al. (2014), applying technology as an innovation to banking services is an effective strategy to improve Service Delivery. The study conducted by Singh (2013) confirm to the inclusiveness of the Service Innovation to the banking

enhances the customer satisfaction, and improve the retention of customers and development of customer relationship.

One of the benefits of electronic banking technology, according to Angko (2013), is cost reductions for both banks and clients. According to Davis and Heineke (1998) and Kanning and Bergmann (2009), the differential seen between expectations of the customers of service and the customer's awareness of overall results is used to determine the customer's level of satisfaction in the "confirmation/disconfirmation" model of satisfaction.

According to Nefat et al. (2012), satisfaction may be understood through several levels. They argued that it might be transaction specific in terms of one service experience and cumulative satisfaction based on a customer's entire experience with the service company.

Customer satisfaction with banking services relates to how satisfied customers are with their whole service experience, which includes delivery, quality, and time spent waiting in a banking facility (Palawatta, 2015). Shrestha (2018) conducted a survey on the service quality provided to the majority of bank customers, and their responses agreed that convenient location of banks, availability of modern technology, availability of a waiting area, and availability of a private room are all factors that determine customer preference for banks.

### **2.2.3 Customer satisfaction**

Kotler et al. (2004), customer happiness can be noted, whether they are delighted or dissatisfied, after comparing perceptions or impressions of performance that are below expectations. Customers are delighted and happy when performance exceeds expectations. The customer will be dissatisfied if the performance falls short of expectations; if the performance meets expectations, the customer will be satisfied; and if the performance surpasses expectations, the customer will be extremely satisfied.

Customer happiness may be enhanced via good communication to customers, as shown by Zhengwei and Zhao (2012) in their paper. A Company should be aware of its customers' expectations and put them into action in order to satisfy them. There should be a wide range of surveys, with consumer feedback obtained from a random group of

people at regular intervals. Customer satisfaction is a creative procedure that involves differentiating products and presenting them in a distinct flavor, which adds more value to the customer's thinking. Making new clients is usually more expensive than keeping existing consumers. Following Rust and Zahorik, recruiting new clients might be five times more expensive than maintaining existing customers. As a result, it is critical for businesses to continue working on developing new and standard items in order to provide excellent customer service.

Customer happiness is increasingly being recognized as a critical instrument for corporate success, with a growing understanding that customer pleasure is required to keep the Malaysian market afloat (Nawi and Al-Mamun, 2017). Furthermore, according to Jiang and Zhang (2016), the service quality variable is still a key factor that determines customer satisfaction levels. In a similar vein, Kasiri et al. (2017) said that customer happiness is strongly linked to service loyalty. Customers who are happy with a service or business are more likely to remain loyal to that service or business. As a result, customer happiness is critical since delighted consumers are more likely to generate high-margin revenues to the company (Chowdhury, 2014).

In general, businesses, including Banks, Corporate offices, telecommunications companies, must consider supplying excellent creative services to meet consumers' unending wants. This is because, as Mohsan (2011) points out, unsatisfied customers might drive away more business from a company than ten (10) very satisfied customers. Without a question, Customer Satisfaction is critical to the survival of most businesses.

Customer satisfaction supports businesses by enhancing customer loyalty, customer loyalty, customer transaction reduction, increase in customer lifetime value, and decrease in bad word of mouth, among other factors, according to Beard (2014). As a consequence, the banking industry can assure stability and gain a competitive edge over other banks by providing similar services.

### **Relationship among Service Innovation, Service Delivery and Customer Satisfaction**

Tuomein, T. et al. (2008), in conjunction with the Schumpeter five innovation models and the modern model, explain how opportunities for innovation have evolved as a result of the interaction between a service company and its customers, as evidenced by the ways

in which services are delivered and the client interface. This also highlights the links between the study's dependent and independent variables.

McClelland, R. et al. (2020) with qualitative study on the hospitality sector states the influence of Service operations provided by the innovative hints by delivering innovative services to customers. The study has proven the relation in the context of hotel operations, the influence of innovation on customer satisfaction. Likewise, other research, Ravishankar, B., & Christopher, P.B. (2020) and Kanten, Y., & Yaşlıoğlu, A. (2012) also agrees to the integration of innovation in the company has a beneficial impact and also provides a future competitive advantage.

In the banking sector of the Asian countries, certain papers established the relationship between Service Innovation and Customer Satisfaction along with other variables such as Service Delivery in this study, Customer Value Creation by Mahmoud, M.A. et al. (2018) and Kanwal, R., & Yousaf, S. (2019). These studies have outperformed the paper in the banking context, highlighting the mediation effect of value creation requirements, as well as service innovation, in ensuring customer satisfaction and retention, as well as consumer loyalty to banks.

The research from YuSheng, K. and Ibrahim, M. (2019) conceptual framework established the relation among these three variables, which has been the base of the entire proposed research on the study. The study carried out to discover the role of service innovation in the relation between Service Delivery, Customer Satisfaction, and loyalty in Ghana's banking industry. The result confirmed the stated objectives along with that if the enhancing service delivery with the innovative service for customer satisfaction was a concern of implication for the managers.

When creating a new service, it's important to pay attention not just to the essential features and properties of the service, but also to the service delivery procedures that add value to the customers (Trott, 2012).

### **2.3 Research Gap**

Service Innovation has been in use for decades, but research on the theory is only now becoming available. The majority of studies have focused on the organizational level. In today's banking industry, service innovation has become a popular trend. It is a

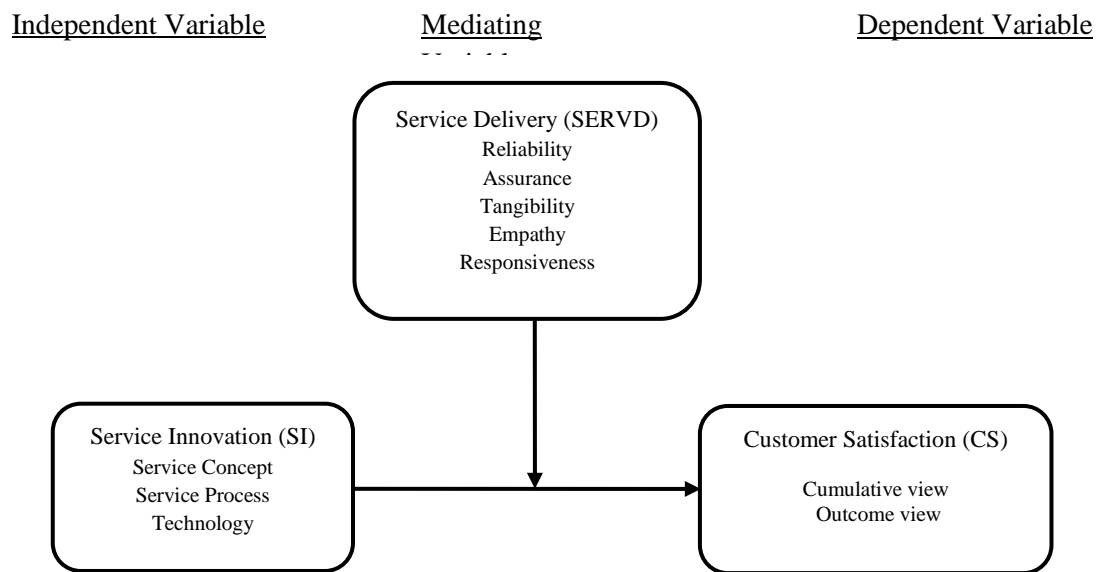
contemporary manner of conducting banking business that incorporates cutting-edge technology for convenient access to services.

Because each company offered the same services, service innovation has now become a competitive advantage for banks and financial institutions. With the arrival of the twenty-first century, the banking industry have seen a chance to improve their banking goods and services in order to strengthen customer relationships and satisfy their needs.

The study focuses on the customer satisfaction as a natural outcome of service innovation adoption and delivery to customers' doorsteps.

## 2.4 Conceptual Framework

This study developed a conceptual framework to better understand the study based on a review of existing literature, as illustrated in Figure 1. In the context of Nepalese banking services, this study focuses on the extent to which Service Innovation enhances Service Delivery, which influences Customer Satisfaction.



Source : ( Ibrahim.M & YuSheng.K, 2019) and (Den Hertog, 2000)

Figure 2.1 Theoretical Framework

## 2.5 Operational Definitions

The explanatory variables for this study are service innovation in three dimensions, namely service concept, service process, and technology, while the dependent variable is

customer satisfaction with commercial banks in Kathmandu Valley. In addition, Service Delivery will be employed as the mediating variable in this study.

### **Service Concept**

It is defined as the newness in the core idea of providing the services in the market, although there is the familiarity in the services in the particular market.

### **Service Process**

It basically refers to the medium through which the services are delivered to the customers. Here, it is the combination of client and delivery of the services.

### **Technology**

It is the integral part of innovation. It is a process, devices and a system, which helps to provide better and unique services.

### **Reliability**

It depicts the clear service protocol, good procedure and system, in which the consumer can trust with end-to-end services.

### **Assurance**

It is identified by the knowledge of employees, courtesy towards the customers and their ability to convey trust with the services rendered.

### **Tangibility**

It concerns the service equipment, physical facilities, personnel and materials that can please the individual whom the services are delivered.

### **Empathy**

It is related with the employee of the organization, who takes care for the user and assists customers individually. Also, it includes the easy accessibility, sensibility to the situation by understanding to the needs.



**Responsiveness**

It refers to the promptness in the services delivered in the convenient manner, without the troublesome process being responsive towards the customers.

**Customer Satisfaction**

Customer satisfaction is based on the service delivery of the organization, along with the innovativeness in the services provided.

## **CHAPTER III**

### **RESEARCH METHODS**

This chapter interprets the research methodologies used to discover the impact of the service innovation and Service Delivery on the customer satisfaction in the context Nepalese commercial Banks within Kathmandu Valley. Research design, population and sample, instrumentation, sources and method of the data collection, pilot testing, reliability and validity of the constructs are focal points of this chapter. The research is based on the operating procedure followed in this study.

#### **3.1 Research design**

Research Designs gathers the plan which guides the researcher in data collection and analysis of the research work. Zikmund, Babin and Griffin (2012) in their book have defined Research design as a detail master plan used as a framework for action which specifies methods and procedures.

The main aim of this study is to assess the impact of Service Innovation on the Satisfaction of the customer using the services rendered by the A Class Commercial Bank in Kathmandu Valley mediated by Service Delivery. Therefore, the study is Quantitative. The study follows the descriptive research design to identify the relationship between independent variables: Service Innovation( Service Concept, Service Process and Technology) and dependent variable: Customer Satisfaction.

Casual mediation analysis has been done through Hayes Process; Hayes (2018) for finding the mediating role of mediating variable for the study. Therefore, this study is a descriptive quantitative study that investigates the impact of Service Innovation on the satisfaction of the customer mediated by Service Delivery of Commercial Bank in Kathmandu Valley. For this study, research has formulated a set of hypotheses at the start of research and after that relevant research methods are chosen and finally applied to test the hypothesis that is formulated.

With the use of the mentioned research design, it tries to interpret the phenomenon of the objectives of the research with the cause-and-effect relationship of Service Innovation, Service Delivery and Customer Satisfaction among the Nepalese Commercial Banks in the Kathmandu Valley.

### 3.2. Selection of location

The area selected for the research study includes the commercial banks within the Kathmandu Valley as per the convenience of the researcher. Basically, corporate office and their branches are located at the Kathmandu Valley and thus, the service provided by the banks includes the innovative services like ATM, Online payment, Connect IPS, SMS services, Internet banking. Thus, All the Commercial Banks within the Kathmandu Valley represents the target population and study area for this research.

### 3.3 Population and Sample

The target population of the study includes the customers of commercial bank within the Kathmandu Valley. As per NRB (2020), there are 27 commercial banks in Nepal. All the customer of 27 Commercial banks in study area of the Kathmandu Valley would be the target population of this study.

Sample is the representation of the population to ensure that the findings are being generalized from the sample obtained as a whole population. This study took the non-probability sampling methods to frame the sample from the population, who were willing to participate while the study took place. The sample size was determined using the Cochran (1963:75) equation, which is considered to for unknown population.

$$n = \frac{z^2 pq}{e^2}$$

Where,

$n$ = Sample size

$p$ =Population proportion with given attribute

$q=1-p$

$e$ = error Margin

$z$ =  $z$  value (1.96 for 95% confidence interval)

For unknown population, it is recommended that the value of p and q shall be set at 50%. Similarly, the confidence level of 95% with z value =1.96 and sampling error e = 5% is considered.

$$n = \frac{1.96^2 \times 0.5 \times 0.5}{0.05^2} = 384$$

Hence, 384 sample sizes are considered to be appropriate for the study. However, only 355 responses were collected from the questionnaire served to the determined sample size with the response rate of 64.16% which is considered suitable for the study as the previous service innovation studies.

Sample size of the 355 is also consistent with the suggestion of the (Garson, 2008), (Nunally, 1978), (Willem A. Arrindell, 1985), Sample size of 10 cases for each item in the instrument is used.

The previous similar studies have used different model took different samples sizes. 250 samples were taken by Rimsha Kanwal and Salman Yousaf (2019) for their study on Impact of Service Innovation on Customer Satisfaction: An Evidence from Pakistani Banking Industry, 273 samples were taken for study of the Influence of Service Innovation and Service Quality to Customer Satisfaction and Loyalty in Nepalese Commercial Bank by Vivie N.P. Rantianti, R.E. Halim (2020). Also, Bayu Kurniawan, Nazief Nirwanto, Achmad Firdiansjah (2019) collected 398 samples for study of the Effect of Service Innovation on Customer Satisfaction Indihome Internet Provider in Central Java Through Corporate Reputation as Variable Intervening. Along with that, YuSheng, K. and Ibrahim, M. (2019) collected 450 samples for their research on Service innovation, service delivery and customer satisfaction and loyalty in the banking sector of Ghana. Gideon, A (2019) have used 150 Employees and customer of the selected banks for the study using qualitative approach in the banking industry of Ghana.

### **3.4 Instrumentation**

The study includes the quantitative analysis with the closed ended structured questionnaire for primary data collection from respondent. Five-point Likert scale has been chosen for the preparation and measurement of the questions on the basis of various dimension of Service Innovation, Service Delivery and Customer Satisfaction.

The first section of the questionnaire includes demographic questions like gender, age, monthly pay, and use of bank's innovative services. The Second section of the questionnaire comprises the major construct from the conceptual framework i.e., Service Concept, Service Process, Technology, Service Delivery and Customer Satisfaction.

As mentioned earlier, 5-point Likert scales would be used to measure questionnaire as the following instrument has been adapted from the various researcher is modified for the research compatibility, according to the location, objectives and general understanding of respondents for the study. Hence, the questionnaire for the items and construct were sourced from the previous literature which is tabulated below:

Table3.1 Construct and Measurement Items

Constructs	Label	No. of items	Source
Service Innovation	SI	3	Mahmoud et al. (2017)
Service Delivery	SERVD	5	Vivie N.P. Rantianti, R.E. Halim (2020) Pararuraman et all (1988)
Customer Satisfaction	CSAR	2	Nimako, S.G (2012)

### 3.5 Sources and methods of data collection

The data has been collected through the self-administered questionnaire, according to the fulfillment of research objectives. Data was obtained by dispatching online questionnaire with the help of Google form to the customers of various commercial banks within the Kathmandu valley through mail. Hence, the data was collected electronically and analyzed thereafter.

### 3.6 Data Management and Analysis

The data that has been collected from the structured questionnaires are entered, arranged and summarized in Microsoft Excel software. The coding and analysis of collected data is done through a statistical package for social scientists (SPSS). Different types of tests are carried out for analysis a purpose which includes descriptive statistics and regression analysis was used to analyze the data and establish relationships existing in the dependent and independent variables. Demographic statistics of the sample include Frequency distributions and measures of central tendency that describe the data. Data is tested by

using the various approaches to regression analysis, correlation analysis and Bootstrapping using Hayes Process for the mediation analysis using statistical software SPSS.

### **3.6.1 Descriptive Analysis**

Descriptive research can be both quantitative and qualitative. The descriptive analysis involves the collection, tabulation and presentation of qualitative or quantitative information describing a certain event or phenomenon. Descriptive analysis is used in this study to collect the information relating to the demographics such as gender, age and Monthly Income reflective the demographic composition of the study as well as preferences of the customer having the bank accounts to use the innovative services provided by the Commercial Banks. For the explanation of descriptive statistics, the current study has assessed the average, standard deviation, the minimum and maximum value of variables.

### **3.6.2 Correlation Analysis**

Correlation analysis in research is a statistical method used to measure the strength of the linear relationship between two quantitative variables and compute their association. In other words, correlation analysis calculates the level of change in one variable due to the change in the other. A high correlation points to a strong relationship between the two variables, while a low correlation means that the variables are weakly related. This method is used to explore the relationship between Service Innovation and Service Delivery with Customer Satisfaction. Pearson correlation has been used for knowing the relation between these variables.

### **3.6.3 Regression Analysis**

Multiple regression analysis is carried out for the study. This analysis is used to analyze the impact of more than one independent variable on the dependent variable. The regression model helps to identify the predictive capability of the independent variable on the dependent variable which is tested at the 1% level of significance.

The purposed regression model for this study is to identify the impact of the Service Innovation on the Customer Satisfaction and highlight the relationship between Service Innovation and Customer Satisfaction.

The following functional equation describes the relationship between the Customer Satisfaction and determinants of Service Innovation dimensions;

$$CS = f (SC, SP, T,) \quad (i)$$

The regression equation of the above function is given below;

$$CS_i = \beta_0 + \beta_1 SC_i + \beta_2 SP_i + \beta_3 T_i + e_i \quad (ii)$$

Where,

i is the survey done at time t and  $\beta_0$  is the intercept and  $\beta_1, \beta_2, \beta_3$  are the coefficients of the explanatory variables and  $e_i$  is the error terms

CS = Customer Satisfaction

SC= Service Concept

SP=Service Process

T= Technology

### 3.6.4 Mediation Analysis

For mediation analysis, Holland (1988) casual mediation model is used for the study which is the best method for testing mediation analysis. The direct, indirect and total effect is measured thereafter from the following equations and bootstrapping is done for further analysis for mediation through Hayes Process.

1. Independent variables related to the dependent variable

$$CS_1 = \beta_0 + \beta_1 SC + \beta_2 SP + \beta_3 T + e_1 \quad (a)$$

Where,

$\beta_0, \beta_1, \beta_2$  and  $\beta_3$  are coefficients of explanatory variables

$e_1$  is the error terms

2. Independent variables related to potential mediator

$$SERVD = \beta_{0i} + \beta_{1i} SC + \beta_{2i} SP + \beta_{3i} T + e_{1i} \quad (b)$$

Where,

$\beta_{0i}, \beta_{1i}, \beta_{2i}$  and  $\beta_{3i}$  coefficients of explanatory variables

$e_{1i}$  is the error terms

3. Potential mediator related to dependent variable

$$CS_k = \beta_{0k} + \beta_{1k}SERVD_k + e_k \quad (c)$$

Where,

$\beta_{0k}$  and  $\beta_{1k}$  are coefficients of moderating variable

$e_k$  is the error terms

4. Mediator variable is related to dependent variable controlling for exposure to independent variable

$$CS_{1j} = \beta_{0j} + \beta_{1j}SC + \beta_{2j}SP + \beta_{3j}T + \beta_{4j}SERVD + e_{3j} \quad (d)$$

Where,

$\beta_{0j}, \beta_{1j}, \beta_{2j}$  and  $\beta_{3j}$  are the coefficients of explanatory variables here and

$\beta_{4j}$  is coefficient of mediating variable

$e_{3j}$  is the error terms

### **3.7 Reliability and Validity of Data**

#### **3.7.1 Pilot test**

Prior the execution of the survey among the target population, Pilot test was conducted. Pilot tested is usually conducted to check the consistency and accuracy of the construct used in the study. It was conducted through online structure questionnaire to the customers of the confined locality i.e., Kathmandu Valley. Out of total 50 various respondents, 30 respondents were found enough to obtain the reliability analysis as main purpose of the study was not to draw conclusion or results (Nunnally, 1994). Pilot test was done for the study which reflected the accuracy and usability of the questionnaire and few modifications was done to adapt to the Nepalese context prior to the survey with the questionnaire.



### 3.7.2 Reliability

Reliability means the consistency of the measure of the construct. For this purpose of the study, internal consistency is measured which means that each item in an instrument measure the same concept using the split-half reliability. Cronbach alpha is a perfect tool for the measure of internal consistency reliability. Reliability coefficient of 0.70 or higher is considered to be “acceptable” in most social science research situations. Lower value of the Cronbach alpha reflects the lower no of constructs or poor intercorrelation among the constructs in an instrument. Likewise, the higher alpha values reflect the redundancy measuring the same concept again.

Table 3.2 *Reliability*

Variables	No. of items	Cronbach's Alpha
Service Innovation	14	0.886
Service Delivery	15	0.879
Customer Satisfaction	6	0.737

*Source: Survey Data (2020)*

Table 3.2 exhibits the Cronbach alpha for the variables that were selected for the study. The Cronbach alpha for Service Innovation, Service Delivery and the Customer Satisfaction is 0.886, 0.879 and 0.737 respectively, which for all variables is greater than 0.70 that signifies that overall reliability is good for the strength of variables.

## CHAPTER IV

### ANALYSIS AND RESULTS

This chapter mainly focuses on the analysis, presentation as well as interpretation of the data collected for the study. Also, it discusses the results of the survey conducted and the estimation of the quality-of-life model that has been proposed for the study. The findings of the study are presented by the different presentation tools which consist of frequency table, descriptive tables, correlation, and regression and mediation analysis. Furthermore, this chapter is divided into subsections for general characteristics of the respondent's age, marital status, the highest level of education; Customer Preference towards service innovativeness provided by Commercial banks and other factors related to Service Delivery as well as the Customer Satisfaction are discussed here with a strong basis on data collection for the study.

#### 4.1 Client Characteristics

These client characteristics include the age group, education qualification, marital status, family members for this study.

##### 4.1.1 Demographic Profile of Respondents

The demographic characteristics of respondents are shown in the following table:

Table 4.1 *Demographic Profile of Respondents*

Factors	Demographic Variables	Frequency	Percent
Age	Below 20 years	45	12.7
	21-40 years	166	46.8
	40-60 years	104	29.3
	60 year and above	40	11.3
	Total	355	100.0
Gender	Male	177	49.9
	Female	178	50.1
	Total	355	100.0
Monthly Salary	Up to Rs. 50,000	176	49.6
	Rs. 50,000- Rs. 100,000	133	37.5
	Rs. 100,000 and above	46	13.0
	Total	355	100.0

*Source: Survey Data (2022)*

Table 4.1 exhibits the demographic profile of respondents of the questionnaire belonging to the customers of the various Commercial Banks within the Kathmandu Valley. This table comprised of respondent's profile that is grouped by demographic variables such as Age, Gender, and Monthly Income. So, this study consists of 355 respondents in total.

Out of the valid respondents, 12.7% of respondents (i.e., 45 out of 355) belong to the Below 20 years of age group, who are eligible to open the bank accounts on their own. 166 out of 355 respondents (46.8.1%) belongs to the 21-40 years of age group and are termed as the active working group age, 29.3% of respondents (104 out of 355) belongs to the age group of 40-60 years, are the settle individuals and 11.3% of respondents (i.e., 40 out of 355) belongs to above 60 years of age group, retired or having an income source from pension and interest, gratuity according to Nepalese law. Summarizing this, most of the respondent for the study belong to the age group of 21-40 years (46.8%). Similarly, we can observe that, from the total respondents, 49.9% are male and 50.1 % are Female, which clearly shows that the majority of female in compared to male.

From the above table of the demographic profile of respondents, Majority of respondents have monthly income below 50,000 are 49.6% (i.e., 176 out of 355) are illiterate. Other respondent with monthly income of Rs. 50,000 to Rs. 100,000 is 37.5% (i.e., 133 out of 355) and Above Rs. 100,000, 13 % (i.e., 46 out of 355). These findings include that the majority of respondents with age group of 21-40 years, include the active population of working females who are earning monthly income below Rs. 50,000.

## **4.2 Customer Preferences**

Customer Preference to the innovative services offered by the commercial bank. The services provided by Commercial Banks are Normal ATM Card, Contactless ATM Card, E- Banking, Mobile Banking, SMS services, Online Customer Service and Digital Wallet. The following table represents the respondent preference using the Innovation services from Commercial Banks and discussed below in table according to the response rate.

Table 4.2 *Customer Preference of Respondents*

Services Offered	Preferred	Frequency	Percent
Normal ATM Card	Yes	350	98.6
	No	3	0.8
	I don't Know	2	0.6
	Total	355	100.0
Contactless ATM Card	Yes	258	72.7
	No	49	13.8
	I don't Know	48	13.5
	Total	355	100.0
E- Banking	Yes	308	86.8
	No	33	9.3
	I don't Know	14	3.9
	Total	355	100.0
Mobile Banking	Yes	342	96.3
	No	9	2.5
	I don't Know	4	1.1
	Total	355	100.0
SMS Services	Yes	331	96.3
	No	18	5.1
	I don't Know	6	1.7
	Total	355	100.0
Online Customer Service	Yes	294	82.8
	No	41	11.5
	I don't Know	20	5.6
	Total	355	100.0
Digital Wallet	Yes	286	80.6
	No	38	10.7
	I don't Know	31	8.7
	Total	355	100.0

*Source: Survey Data (2022)*

Table 4.2 exhibits the respondent's preference to the services provided by the commercial banks. The service provided using the innovation are Normal ATM Card, Contactless ATM Card, E- Banking, Mobile Banking, SMS services, Online Customer Service and Digital Wallet. Out of 355 respondents, the majority of respondents have used the Normal ATM card provided by the commercial banks (i.e., 98.6%) which shows that the provided service is the very first service product introduced in the market as a service innovation.

Among other service offered, from traditional to the modern banking services, mobile banking and SMS services is the second most preferred services by the respondents (i.e.,96.3%). Out of the total respondent, other respondent preferred E- Banking (i.e., 86.8%), followed by Online Customer Service (i.e., 82.8) and Digital Wallet (i.e.,80.6%) from the services offered by the commercial banks. The least preferred innovative services by the respondents are the contactless ATM card (i.e.,72.7%), which is introduced in the market recently.

To conclude, the Customer preferences for the service products depend upon the most used and the adaptability of the services by the customer of commercial banks.

### **4.3 Descriptive Statistics of the Variables**

The descriptive analysis includes the total number of respondents, minimum value, and maximum value, the mean and standard deviation of variables taken for the study. Here, Service Innovation as an Independent variable include Service Concept, Service Process and Technology and other variables such as Service Delivery include Reliability, Assurance, Tangibility, Empathy and Responsiveness. Customer Satisfaction, Dependent variable includes Cumulative view and Outcome view.

Out of total respondents, the valid sample obtained for the study is 355 respondents who have used the services offered by the commercial Bank located in the Kathmandu Valley. Descriptive analysis is done based on the response rate of respondents.

Table 4.3 Descriptive statistics of the Variables

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Service Concept	355	1.0	5.0	4.1470	0.5927
Service Process	355	1.0	5.0	4.1234	0.5907
Technology	355	1.0	5.0	4.1197	0.6532
Reliability	355	1.0	5.00	4.0732	0.6291
Assurance	355	1.0	5.00	4.1662	0.5647
Tangibility	355	1.0	5.00	4.0836	0.6278
Empathy	355	1.0	5.00	4.0854	0.6298
Responsiveness	355	1.0	5.00	4.1042	0.6174
Customer Satisfaction	355	1.0	4.83	4.1836	0.5412

*Source: Survey Data (2022)*

Table 4.3 shows the descriptive statistics of the variables for the study. The mean value of Service Concept is 4.1470 with a standard deviation of 0.5937 and it was measured on a five-point scale. The mean value of Service Concept indicates that the majority of respondents received Innovative services from their bank and the standard deviation represents the variation in the respondent answer which is 59.27%.

Service Process was measured on the five-point scale and the mean value is 4.1234 which indicate that the bank provides the creative and innovative marketing services and variation on the response from the respondent is 0.5927 which indicates a high degree of deviation from average.

The mean of Technology is 4.1197 which indicates that the majority of respondents get the latest banking technology from their respective banks and the deviation from the average is high i.e., 0.6532.

The descriptive statistics of Service Delivery are measured in a five-point Likert scale and the mean of Five-dimension was taken for the study and are Reliability, Assurance, Tangibility, Empathy, and Responsiveness. The mean of Reliability is 4.0732 which mean that respondent's bank provides respondents with a correct end-to-end service process which they can rely on. The standard deviation is 0.6291 which indicates that Reliability is slightly varied. The mean for Assurance is 4.1662 which indicate that respondent's respective bank officers are polite and provide service with proper manner. The standard deviation for this is 56.47% which shows a variation of the respondent's answer. Similarly, the mean for Tangibility is 4.0836 which show that respondents agreed to the

opinion for bank's physical facilities are clean and visually appealing as a part of the service delivery. The standard deviation indicates that the response is varied by 62.78%. Further More, the mean for Empathy is 4.0854 which indicate that respondent's respective bank officers provide good services at bank. The standard deviation for this is 62.98% which shows a variation of the respondent's response. Also, Responsiveness as the final dimension for the service delivery with mean of 4.1042 indicates that respondent's banks promptly attend to the customer needs.

The dimension of Customer Satisfaction is measured in two-dimension of Cumulative and Overall Satisfaction on Five-Point Likert Scale. The mean value of Customer Satisfaction is 4.1836 which signify that the Customers are satisfied with the innovative services provided by the Commercial Banks for the respondents in Kathmandu Valley. The standard deviation is 0.5412 which indicates that the response is varied by 54.12%.

### 4.3.1 Service Concept

The response rate of respondents for Service Concept is shown in the following table:

Table 4.4 *Service Concept*

	N	Minimum	Maximum	Mean	Std. Deviation
My bank provides all the innovative services: (E-Banking, Mobile Banking, Cards (Debit /Credit), ATM, and Digital Wallet).	355	1.0	5.0	3.938	0.7859
My bank provides me with customized banking options.	355	1.0	5.0	4.389	0.9513
My bank provides with different product and services in unique concept and design, compared to preceding services.	355	1.0	5.0	3.983	0.8368
My bank provides with different product and services in unique concept and design, compared to competing services.	355	1.0	5.0	4.313	0.8866
My bank provides with the different service experience compared to the preceding services.	355	1.0	5.0	4.113	0.8087

*Source: Survey Data (2022)*

The results of Table 4.4 show the mean value of the statement: Banks provides all the innovative services is 3.938 which shows that respondents are provided with the innovative services by their respective banks and the response rate is varied by 78.59%. The mean of a statement, providing the customized banking services is 4.398 which indicates that respondents is provided by the customized banking services which shows that respondents are highly satisfied with the statement and respondent answers varied by 95.13%. The statement of mean having 3.983 for different product and services in unique concept and design, compared to preceding services provided by the banks and the standard deviation is 0.83.68 which shows respondent's answers varied by 83.68%. The mean of a statement, providing different product and services in unique concept and design, compared to competing services is 4.313 and the standard deviation represents the variation in respondent's answer which is 88.66%. The mean value of the statement, providing serviced with the different experience compared to the preceding services. is 4.113 which indicates that respondents have experience the satisfying services provided by banks and standard deviation represents the variation in respondent's answers which is 80.87%.

### 4.3.2 Service Process

The response rate of respondents for Service Process is shown below in the table:

Table 4.5 *Service Process*

	N	Minimum	Maximum	Mean	Std. Deviation
My bank has online service option.	355	1.0	5.0	3.904	0.8516
My bank uses modern interaction media.	355	1.0	5.0	4.276	0.8909
My bank has automated service options.	355	1.0	5.0	4.093	0.9050
My bank offers quick and easy call center support.	355	1.0	5.0	4.237	0.9450
My bank provides creative and innovative marketing services.	355	1.0	5.0	4.107	0.8503

*Source: Survey Data (2022)*



Table 4.5 shows the mean value of statements for Service Process: Banks providing online service option is 3.904 which signify that respondent have provided with the various online service options and the standard deviation here shows that respondent's answers varied by 85.16%. The mean value of statement of banks uses modern interaction media to communicate with the clients is 4.276 which shows that respondents communicate with the banks using modern interaction media varied by 89.09%. The mean of a statement, of banks having automated service options is 4.093 which means the respondent's banks provides with the automated service options. The standard deviation suggests that the variation in the respondent's answer is 90.50%. The mean value of the statement, of bank offering quick and easy call center support is 4.237 which suggests that respondents is more likely to use the banks offering quick and easy call center support and variation to the response by respondents is 94.50%. Similarly, the mean value of statement of bank providing innovative and creative marketing services is 4.107 which indicates that respondents is provided with creative and innovative marketing services by the banks and deviation on the answer by the respondent is 85.03%. Hence, respondent is likely to take the quick and easy call center support provided by the bank. Respondent chooses the banks providing the quick accessibility during the service delivery.

### 4.3.3 Technology

The response of respondents to the statements for Technology for Service Innovation is shown in the following table:

Table 4.6 *Technology*

	N	Minimum	Maximum	Mean	Std. Deviation
My bank has adapted with latest technology.	355	1.0	5.0	3.837	0.8345
My bank has many innovative features.	355	1.0	5.0	4.287	0.8614
My bank is always first on the market with the latest technology.	355	1.0	5.0	4.104	0.9525
My bank has improved its delivery system with the new innovation.	355	1.0	5.0	4.251	0.8777

*Source: Survey Data (2022)*

The result of table 4.6 shows the mean value of the statement, shows that the banks has adapted with the latest technology is 3.837 which indicates that respondent's banks has adapted with the latest technologies and deviation is seen in the answer by 83.45%. The mean value of the statement, of banks having many innovative features is 4.287 which signifies that respondent agreed to the statement and the standard deviation shows the variation of answer by the respondents which is 86.14%. The mean of statement, banks always first on the market with the latest technology is 4.104 which indicate that respondents agree with the statement highly and standard deviation represents the variation in respondent's answer which is 95.25%. The mean value of the statement, bank has improved its delivery system with the new innovation is 4.251 which signifies that respondent are agreeing with the statement and the deviation of the answer is 87.77%.

#### 4.3.4 Reliability

The response of respondents for the statement Reliability is shown in the following table:

Table 4.7 *Reliability*

	N	Minimum	Maximum	Mean	Std. Deviation
My bank has a clear service protocol and is dependable.	355	1.0	5.0	3.806	0.8430
My bank has a good procedure and system to store customer data.	355	1.0	5.0	4.346	0.8576
My bank provides a correct end-to-end service process.	355	1.0	5.0	4.068	0.8963

*Source: Survey Data (2022)*

The result of table 4.7 shows that the mean value of the statement, that bank has a clear service protocol and is dependable is 3.806 which that the respondents agree with the statement and the standard deviation represent the variation in respondent's answer is 84.30%. The mean of a statement, that bank has a good procedure and system to store customer data. is 4.346 which suggests that respondents agreed with the statement and variation to the respondent's answer is 85.76%. The mean value of the statement, that bank provides a correct end-to-end service process is 4.068 which shows that respondents highly agreed with the statements and standard deviation represent the variation in respondent's answer is 89.63%.

### 4.3.5 Assurance

The response of respondents on the statement of Assurance is shown below in the table:

Table 4.8 Assurance

	N	Minimum	Maximum	Mean	Std. Deviation
My bank officers have good knowledge and can do their job well.	355	1.0	5.0	3.870	0.7703
My bank officers correctly operate their service and make me feel safe when making transactions.	355	1.0	5.0	4.468	0.7672
My bank officers are polite and provide service with proper manner.	355	1.0	5.0	4.161	0.8197

*Source: Survey Data (2022)*

Table 4.8 exhibits that the mean value of the statement, bank officers have good knowledge and can do their job well is 3.870 which indicates that respondents is assured with the banks officers has good knowledge and can do their job and standard deviation represents the variation in respondent's answer which is 77.03%. The mean of a statement, of bank officer can correctly operate their service and make respondent feel safe when making transactions is 4.468 which signifies that respondent agree to the statement and the variation to the answer is 76.72%. The mean of a statement, that bank officers are polite and provide service with proper manner is 4.161 which show that respondents agreed with the statement and the variation in respondent's answers is 81.97%. Hence, the respondent's assurance level is defined with higher degree with the banks personnel politeness and providing the services with proper manner.

### 4.3.6 Tangibility

The response of respondents on the statement for Tangibility is shown below on the table:

Table 4.9 Tangibility

	N	Minimum	Maximum	Mean	Std. Deviation
My bank has up-to-date service equipment.	355	1.0	5.0	3.839	0.8468
My bank's physical facilities are clean and visually appealing.	355	1.0	5.0	4.327	0.8572
My bank has enough electronic machines for self-service transactions.	355	1.0	5.0	4.175	0.8390

*Source: Survey Data (2022)*

The result of table 4.9 shows the mean value of the statement, bank has up-to-date service equipment is 3.839 which indicates that the respondent's Banks has upgraded the service equipment and variation to the respondent's answer is 84.68%. The mean of statement, bank's physical facilities are clean and visually appealing is 4.327 indicates that respondent's banks looked after the cleanliness and the appearance to the customers and here standard deviation represents the variation in respondent's answer is 85.72%. The mean value of the statement, bank has enough electronic machines for self-service transactions is 4.175 which signifies that respondent agreed to the statement and implies that respondents give priority of the electronic machine where the service is prompt and easily can be accessed and variation in respondent's answer is 83.90%.

#### 4.3.7. Empathy

The response of respondents on the statement for Empathy is shown below on the table:

Table 4.10 *Empathy*

	N	Minimum	Maximum	Mean	Std. Deviation
My bank officers take good care of me.	355	1.0	5.0	3.772	0.8742
My bank officers know my needs and provide information accordingly.	355	1.0	5.0	4.327	0.8097
My bank officers clearly explain any problem situations.	355	1.0	5.0	4.158	0.8390

*Source: Survey Data (2022)*

The result of table 4.10 shows the mean value of the statement, bank officers take good care of me is 3.772 which indicate that the respondent's Banks officers treat their customer very nicely and variation to the respondent's answer is 87.42%. The mean of statement, bank officers know customer needs and provide information accordingly is 4.327 indicates that respondent's banks looked after the client necessity and here standard deviation represents the variation in respondent's answer is 80.97%. The mean value of the statement, bank officers clearly explain any problem situations is 4.158 which signifies that respondent agreed to the statement and implies that respondents give priority of the electronic machine where the service is prompt and easily can be accessed and variation in respondent's answer is 83.90%.

#### 4.3.8. Responsiveness

The response of respondents on the statement for Responsiveness is shown below on the table:

Table 4.11 *Responsiveness*

	N	Minimum	Maximum	Mean	Std. Deviation
My bank officers promptly attend to my needs.	355	1.0	5.0	3.817	0.8184
My bank officers provide convenience service without a burdensome process.	355	1.0	5.0	4.313	0.8673
My bank officers are responsive and able to solve my request.	355	1.0	5.0	4.183	0.8149

*Source: Survey Data (2022)*

The result of table 4.11 shows the mean value of the statement, bank officers promptly attend to clients' needs is 3.817 which indicate that the respondent's Banks officer is keen to attend their needs and variation to the respondent's answer is 81.84%. The mean of statement, bank officers provide convenience service without a burdensome process is 4.327 indicates that respondent's banks looked client's easier way to make the transaction and here standard deviation represents the variation in respondent's answer is 86.73%. The mean value of the statement, bank officers are responsive and able to solve my request is 4.175 which signifies that respondent agreed to the statement and variation in respondent's answer is 81.49%.

### 4.3.9. Customer Satisfaction

The response of respondents on the statement for Customer Satisfaction is shown below on the table:

Table 4.12 *Customer Satisfaction*

	N	Minimum	Maximum	Mean	Std. Deviation
Overall Satisfaction with the Online banking services.	355	1.0	5.0	3.820	0.8138
Overall Satisfaction with the Mobile banking services.	355	1.0	5.0	4.389	0.8576
Overall Satisfaction with the ATM services *24X7	355	1.0	5.0	4.028	0.8793
Overall Satisfaction with the use of card service.	355	1.0	5.0	4.327	0.8304
Overall Satisfaction by innovative services provided by the bank. (Digital wallet, Connect IPS)	355	1.0	5.0	4.200	0.7826
Overall Satisfaction, with the banking service offering	355	1.0	5.0	4.338	0.7682

*Source: Survey Data (2022)*

The result of table 4.12 shows the descriptive statistics of customer satisfaction are measured in a five-point Likert scale and the mean of dimension was taken for the study. The mean of satisfaction using online banking services is 3.820 which means that respondent's satisfied using the online banking services and prefer using further. The standard deviation is 0.8138 which indicates that satisfaction of clients using the online banking services is slightly varied. The mean for mobile banking services is 4.389 which indicate that satisfaction to the respondent is higher in terms of using mobile banking which is quickly accessible on hand. The standard deviation for this is 85.76% which shows a variation of the respondent's answer. Similarly, the mean for satisfaction using ATM service is 4.028 which show that respondents agreed to the opinion for using ATM services rather than standing in queue to cash the cheque. The variation is 87.93%. The satisfaction with the card services illustrates a mean value of 4.327 indicating that most respondents been satisfied with the card services rendered by the banks (i.e., 0.8304). Similarly, the mean value of innovative services offered by the banks (Digital wallet, Connect IPS) is 4.200 with a low standard deviation of 0.7826; correspondingly the

overall satisfaction with banking services is relatively lower with mean value of 4.338 and the variance of 76.82%.

#### 4.4 Test for Multi-collinearity

For this study, a large number of explanatory variables have been used. Therefore, there may be difference in result as there exists the Multi-collinearity which occurs when two different variables measure the same thing which may hinder in getting the result for explanatory variable on customer satisfaction. To make sure that the selected variables for the study are free from Multi-collinearity, the study has tested Multi-collinearity by using the method of VIF (Variance Inflation Factor). The study has tested Multi-collinearity which is shown below in the table:

Table 4.13 *Checking for Multi-collinearity using VIF*

Variables	Tolerance (1/VIF)	VIF
Service Concept	0.316	3.163
Service Process	0.333	3.001
Technology	0.316	3.161
Reliable	0.546	1.831
Assurance	0.402	2.487
Tangible	0.416	2.404
Empathy	0.365	2.740
Responsiveness	0.412	2.425

*Source: Survey Data (2022)*

As a rule of thumb, variables having VIF values greater than 10 may have to check for further investigation which means there is a Multi-collinearity problem. Also, tolerance is used by the different researchers for testing Multi-collinearity and its explanation is that value lower than 0.1 could be the linear combination of other independent variables. Tolerance is calculated by dividing 1 by VIF.

The result of table 4.13 shows the value of Service Concept, Service Process, Technology, Reliable, Assurance, Tangible, Empathy and Responsiveness are 3.163, 3.001, 3.161, 1.831, 2.487, 2.404, 2.740 and 2.425 respectively, which indicates that

absence of Multi-collinearity problem as the value are below 10 for all independent variables.

#### 4.5 Correlation Analysis

Correlation analysis for this study is done to show if the variables within the dataset are related or not. The correlation between the dependent variable (i.e., Customer Satisfaction) and independent variable Service Innovation and Service Delivery is shown in the following table:

Table 4.14 *Correlation Analysis*

	SC	SP	T	SD	CS
SC	1				
SP	0.744**	1			
T	0.748**	0.749**	1		
SD	0.764**	0.743**	0.761**	1	
CS	0.697**	0.682**	0.692**	0.753**	1

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

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

*Source: Survey Data (2022)*

From table 4.14, Customer Satisfaction is significantly correlated to Service Concept with the innovativeness in banking services located in Kathmandu Valley as the significant level is ( $<0.01$ ). The Pearson correlation coefficient of the two variables is 0.697 which signifies that there is a Positive relationship between Service concept and customer satisfaction. Customer Satisfaction is significantly correlated with Service process provided to the Clients/ respondent as the significant level is ( $<0.01$ ) and Pearson correlation coefficient of two variables is 0.682 which shows that there is a positive relationship between Service process and customer satisfaction from the service provided by the banks. Customer Satisfaction is significantly correlated to the Technology as the significant level is ( $<0.01$ ). The Pearson correlation coefficient for these two variables is 0.692 which indicated that there is a positive relationship between Customer Satisfaction and Technological innovativeness provided by the banks.



The Customer Satisfaction is significantly correlated to Service Delivery as the significant level is ( $<0.01$ ) and the Pearson correlation coefficient of two variables is 0.753 which shows that there is a positive and strong relationship between Service Delivery and satisfaction level of the customer using the banking services at Kathmandu valley.

Similarly, Service Delivery is significantly correlated to Service Concept as the significant level is ( $<0.01$ ) and the Pearson correlation coefficient of two variables is 0.764 which signifies that there is a strong positive relationship between Service Concept and Service Delivery. Also, Service Process is significantly correlated to the Service Delivery as the significant level is ( $<0.01$ ). The Pearson correlation coefficient for these two variables is 0.743 which indicated that there is a positive relationship between Service process and Service Delivery. Technology is significantly correlated to Service delivery as the significant level for this is ( $<0.01$ ) and the Pearson correlation coefficient of two variables is 0.761 which signifies that there is a positive relationship between Technology and Service Delivery.

Service Concept is significantly correlated with Service Process offered by the banks as the significant level is ( $<0.01$ ) and the Pearson correlation coefficient of two variables is 0.744 which indicates that there is a positive relationship between Service concept and Service process. Service Concept has a significant relationship between Technology as the significant level is ( $<0.01$ ) and the Pearson correlation coefficient of two variables is 0.748 which indicates that there is a positive relationship between Service concept and Technology. Service process has a significant relationship between Technology as the significant level is ( $<0.01$ ) and the Pearson correlation coefficient of two variables is 0.749 which indicates that there is a positive relationship between Service process and Technology.

#### **4.6 Regression Analysis**

Regression analysis which consists of the model here shows the estimates of the relationship between the dependent variable (Customer Satisfaction) and independent variable (Service Innovation) which also shows the impact of the variable on one another.

#### 4.6.1 Regression analysis for Service Innovation and Customer Satisfaction

Table 4.15 *Regression analysis for Service Innovation and Customer Satisfaction*

Model	Unstandardized Coefficients B	Sig	F-value	R-Square	Adjusted R-square
(Constant)	1.147	.000	157.121	0.573	0.570
Service Concept	0.278	.000			
Service Process	0.225	.000			
Technology	0.232	.000			

a. Dependent Variable: Customer Satisfaction

*Source: Survey Data (2022)*

Table 4.15 exhibits regression analysis for Service Innovation and Customer Satisfaction for the study with a sample size out of valid response 355 respondents from Kathmandu Valley. This table reflects the overall fitness of the model, it reflects that variance in the Satisfied Customer by 57.3% is explained by the independent variables like Service Concept, Service Process and Technology and F-value also represents the good fit for the data as it has value (i.e 157.121). The difference between the R-square and adjusted R-square is less than 2% which suggests that the variables that were used for analysis are not anonymous.

Also, in table 4.15 Beta coefficients is used to reveal the relative importance of independent variables (Service Concept, Service Process and Technology) contribution to dependent variable (Customer Satisfaction). It can be observed that the Service Concept (i.e.,  $\beta_1=0.278$ ) and is significant and positive impact to the Customer Satisfaction level of customer with the innovative service provided by the bank. Similarly, it can be also observed that the Service Process (i.e.,  $\beta_2=0.225$ , at the significance of 0.01) has significant and positive effect on the Customer Satisfaction. Also, it can be seen that the Technology (i.e.,  $\beta_3= 0.232$ , at the significance level of 0.01) has significant and positive impact on the Customer Satisfaction of the banks in Kathmandu Valley.

#### 4.7 Hayes Process for Mediation Effect Analysis

Hayes Process is used to test the direct and indirect effect of the independent variable (Service Innovation Dimension) on the dependent variable quality of life mediated by Service Delivery. The result is generated by SPSS 25 by using Hayes Process as add-on extension software which helped in generating suitable mediation results.

#### 4.7.1 Service Delivery Mediates the relationship between Service Innovation and Customer Satisfaction

The summary of results for the relationship between Service Innovation and Customer Satisfaction mediated by Customer satisfaction is shown in the table below:

Table 4.16 *Total, Direct and Indirect Effect summary (By Hayes Process) SI*

Total effect of X on Y					
Effect	Se	T	P	LLCI	ULCI
0.7370	0.0336	21.7431	0.0000	0.6703	0.8037
Direct effect of X on Y					
Effect	Se	T	P	LLCI	ULCI
0.4122	0.0569	7.2387	0.0000	0.3002	0.5242
Indirect effect(s) of X on Y when mediated by M					
Effect	BootSE	BootLLCI	BootULCI		
0.3248	0.0666	0.1868	0.4459		

Source: Survey Data (2022)

Table 4.16 shows the summary of the total, direct and indirect effect of the independent variable (X) on a dependent variable (Y) when mediated by mediating variable M. Bootstrapping was done in Hayes process to test the mediation effect and its significance. So, in this case of bootstrapping was done on 5000 samples.

Summarizing the result of the Hayes process is to see if Zero (0) falls between the LLCI (Lower-Level Confidence Interval) and ULCI (Upper-Level Confidence Interval). Therefore, if zero doesn't fall between these two intervals i.e., LLCI and ULCI then the relationship or effect is considered to be statistically significant. Here, the total effect is the summation of a direct and indirect effect of variables. The direct effect shows how much the independent variable (Service Innovation) affects the dependent variable (Customer Satisfaction) without the presence of Mediating variable. The direct effect of Service Innovation on Customer Satisfaction is 0.4122 which shows a positive effect and is statistically significant (i.e.,  $p=0.000$ ). However, the indirect effect shows how the independent variable impacts the dependent variable in presence of Mediating variable. The indirect effect coefficient is 0.3248 which is positive and lower than the direct effect.

The path (direct effect) from Service Innovation to Service Delivery is positive and statistically significant as the value for it is ( $\beta$  coefficient= 0.759,  $se= 0.27$  and  $p= 0.000$ ).

The path (direct effect) from Service Delivery to Customer Satisfaction is positive and statistically significant as the significance level is ( $\beta$  coefficient= 0.801, se= 0.037 and  $p=$  0.000). Indirect effect is tested using non-parametric bootstrapping and, in this case, the indirect effect (IE= 0.3248) is statistically significant: 95% confidence interval (0.1868, 0.4459). Therefore, LLCI and ULCI are higher than the value Zero and the impact is significant statistically which suggests that the Service Delivery mediates the relationship between Service Innovation and Customer Satisfaction. In this case, in presence of mediating variable, the mediation is full. It is because the total effect and indirect effect are significant at 5% level of significance.

Table 4.17 Hypothesis test from Regression analysis

	Hypothesis	P-value	Result
H1:	Service Concept has a positive and significant relationship on Customer Satisfaction.	0.697** ( $p<0.01$ )	Accepted
H2:	Service Process has a positive and significant relationship on Customer Satisfaction.	0.682** ( $p<0.01$ )	Accepted
H3:	Technology has a positive and significant relationship on Customer Satisfaction.	0.692** ( $p<0.01$ )	Accepted
H4:	Service Delivery (SERVD) mediates the relationship between Service Innovation (SI) and Customer satisfaction (CSAT).	(0.1868,0.4459) (LLCI, ULCI>0)	Accepted

Source: Survey Data (2022)

#### 4.8 Major Findings

With the different quantitative analyses for the study, the researcher has come up with different findings which further aided in concluding the current research. This part of the chapter points out the major findings for the current research which are listed below:

- i. The research conducted among the customer of commercial banks within Kathmandu Valley, 178 (50.1%) are Female and 177(49.9%) are Male, and which clearly states that the majority among them are Female.
- ii. Among the respondent, it is observed that 45(12.7%) belong to the Below 20 years of age group, 166 (46.8 %) lie in the age of 21-40 years, 104 (29.3%) have age between the range of 40-60 years and 40 (11.3%) are in the age group of 60 years and above. It reflects that majority of the age group of respondents are from the actively working age group of 21-40 years.

- iii. Out of the total, 176 (49.6%) of respondents have monthly earning Upto Rs. 50,000. 133(37.5%) respondents have an earning from Rs. 50,000-Rs. 1,00,000 per month and 46(13%) are the respondent with monthly salary above 1,00,000 with majority of group earning Up to Rs. 50,000 per month.
- iv. The study shows that the majority 350(98.6%) of the respondents has been using the Normal ATM cards to extreme among all the banking services offered, 3(0.8%) are do not prefer to use ATM cards and 2(0.6%) are not known about the Normal ATM cards.
- v. Out of the total respondents, 258(72.7%) of respondents have used the contactless ATM cards and 49(13.8%) out of total respondents prefer not to use contact less ATM cards or their banks do not offer the services currently and the rest 48(13.5%) of total respondents do not know about the Contact less ATM card services, as this is newly introduced services at the banks.
- vi. From the above results, only 308(86.8%) out of the total respondents prefer E Banking services from the banks,33 (9.3%) do not prefer to use the E-banking might be due to the privacy issues and the rest 14 (3.9%) respondents are not introduced with the E- banking services.
- vii. Out of the total, majority of respondent 342 (96.3%) prefer Mobile Banking services from the banks at most, 9 (2.5%) do not prefer to use the Mobile Banking instead reach bank physically and the rest 6 (1.1%) respondents are not introduced with the Mobile Banking services.
- viii. Among the valid respondent, 331 (96.3%) of respondents preferred SMS services among other innovative services, 18 (5.1%) do not want to use SMS services and the rest 6 (1.7%) out of total respondents do not know about the SMS services, they use the bank for deposit and withdrawing purpose only.
- ix. The study above shows that among the total valid respondents 294(82.8%) prefer the online customer services, 38(10.7%) do not prefer the online customer service and rather visit the banks and rest 20 (5.6%) are unknown about such services offered.
- x. Similarly, Digital wallet preference by the respondent is 286(i.e., 80.6%), 38(10.7%) do not prefer to use the Digital Wallet and rest 31(8.7%) are undiscovered to such services rendered by the banks.
- xi. Descriptive statistics show that the mean value of Service Concept is 4.1470(S. D = 0.5927) which indicate that the majority of respondents are provided with

innovative services, customized banking options, unique service from the preceding one. Also, respondent gets to experience the different services and are very competitive among the other banks.

- xii. Descriptive statistics show that the mean value of Service Process is 4.1234(S.D = 0.5907) which means that majority of respondents have been liking with the service process rendered by the banks using online medium, interactive communication, automated and faster services, innovative marketing to reach the customers.
- xiii. Descriptive statistics show that the mean of Technology is 4.1197(S.D = 0.6532) which shows that respondents get to use the advance tech-friendly innovative features and needs to improve delivery system with the Technology.
- xiv. Descriptive statistics show that the mean of Reliability is 4.0732(S.D = 0.6291) which mean that respondent's banks keeps its promises and provides with the innovative services as per the customers feasibility. Also, the bank cares with the end-to-end services.
- xv. Descriptive statistics show that the high mean value for Assurance with 4.1662 (S.D = 0.5674) which indicate that banks staff provide the assurance to the respondents with the services rendered. The banks staff being knowledgeable, courteous and polite and making the customers feel safe with the transaction are more likely to prefer the banks.
- xvi. Descriptive statistics show that the mean for Tangibility is 4.0836 S. D = 0.6278) which shows that respondents agreed to the opinion for banks services of being updated with the services, physical infrastructure and well-equipped services for the clients.
- xvii. Descriptive statistics show that the mean value of Empathy is 4.0854(S.D = 0.6298) which signify that Banks officers takes good care of the respondent interest and understands the needs. Also, they treat the customers with the individual attention providing solution to the situation.
- xviii. Descriptive statistics show that the Responsiveness illustrates mean value of 4.1042 (S.D = 0.6174) indicating the banks officers are attentive towards the requirement of the respondents and convenient services are approached. Bank officer are responsible with the action and act accordingly to address with customer issues.

- xix. Furthermore, Descriptive statistics show that the higher mean value of Customer Satisfaction is 4.1836, (S.D = 0.5412) correspondingly showing most of the respondents agreed to Overall satisfaction using the innovative services provided by the banks. Respondents are also satisfied with the banking services.
- xx. The results from the test of Multi-collinearity shows the value of Service Concept, Service Process, Technology, Reliable, Assurance, Tangible, Empathy and Responsiveness are 3.163, 3.001, 3.161, 1.831, 2.487, 2.404, 2.740 and 2.425 respectively, which indicates that absence of Multicollinearity problem as the value are below 10 for all independent variables.
- xxi. The result from correlation analysis shows that there is a significant relationship of Customer Satisfaction with Service Concept, Service Process, Technology and Service Delivery.
- xxii. The study revealed that the result of regression analysis shows that there is a significant relationship between Customer Satisfaction and Service Concept, Service Process, and Technology.
- xxiii. The results from Hayes Process for mediation analysis show that personal Service Delivery mediates the relationship between Service Innovation and Customer Satisfaction.
- xxiv. H1 is supported indicating that the Service Concept which is the dimension of the Service Innovation ( $\beta=0.278$ ,  $p<0.05$ ) has the positive and significant influence on the customer satisfaction. So, the core services with innovativeness and unique concept affects the customer satisfaction. Along with that the services should make customer experience newness and accordingly updated with new features.
- xxv. H2 is supported indicating that the Service Process which is the dimension of the Service Innovation ( $\beta=0.225$ ,  $p<0.05$ ) has the positive and significant influence on the customer satisfaction. So, Banks providing customers with better service process to customer aid in enhancement of customer satisfaction
- xxvi. H3 is supported indicating that the Technology which is the dimension of the Service Innovation ( $\beta=0.232$ ,  $p<0.05$ ) has the positive and significant influence on the customer satisfaction. So, the customer required the modern, sophisticated techno friendly services for enhancing the customer satisfaction. This is more preferred due to the current situation of COVID-19 which is threat to the individual as well as the entire world.

xxvii. H4 is supported indicating that the Service Innovation and Customer Satisfaction is mediated by Service Delivery as the indirect coefficient beta value of service innovation is lower than the beta of direct effect. So, higher the service delivery higher would be customer satisfaction due to Innovative services rendered.



## **CHAPTER V**

### **DISCUSSIONS, CONCLUSIONS AND IMPLICATIONS**

The discussion, summation of the findings, and implications of this study are all included in this chapter. This chapter summarizes the whole study and draws the major conclusion as a result. This chapter elaborates on the crucial discovery. At the end of the chapter, the practical and potential implications, as well as future research prospects, will be explored, along with the study's limitations.

#### **5.1 Discussions**

The research looked at how Nepalese commercial banks in Kathmandu Valley handled service innovation, delivery, and customer satisfaction. The purpose of the study was to look at the influence of service innovation across three dimensions: service concept, service procedure, and technology on customer satisfaction with new banking services. In addition, the role of Service Delivery as a mediator between Service Innovation and Customer Satisfaction was investigated. This study's findings are likely to add to the current research on service innovation in the Nepalese setting. More specifically, the influence of service innovation and delivery on customer satisfaction in Kathmandu Valley commercial banks is investigated.

The first stage in determining the impact of Service Innovation and Service Delivery on customer satisfaction was to evaluate descriptive statistics, which gave a rough idea of the relationship between the variables. It found a moderate to higher degree of consumer agreement on many aspects of Service Innovation, as well as a moderate to higher level of customer satisfaction with Service Delivery.

The H1 result revealed that the Service concept has a good and considerable impact on customer satisfaction. The banks are constantly on the lookout for new ideas, innovative goods, and services that conform to the potentiality of providing client happiness by understanding their needs and making them feel secure with their services. This conclusion is comparable to that of several researchers (Edvardsson et al., 1995), and (Mahmoud et al., 2019) who claim that service concept innovation is required for a service organization to boost customer satisfaction.

The finding of the H2 showed that the Commercial Banks Service Process has the positive and significant influence on the customer satisfaction. The outcome may be regarded as a financial services strategy that emphasizes greater client connection and an amazing service delivery procedure that meets the demands of customers, ensuring customer satisfaction. The findings from Yen, Wang, et.al, (2012); Ameme & Wireko, (2016) assert that the customer forms the perception about the service experienced which customer considers as the level of satisfaction.

Another supported H3, the finding indicates that Technology has the positive and significant influence on the customer satisfaction. In order to contribute towards the Customer Satisfaction in significant manner also confirmed by the scholars Johne, (1999), technological innovation will engender the customer satisfaction. In current context, Banks has experienced the more inclination of the customer choices towards the digital and internet banking. (SALEEM et al., 2022)

Finally, the findings of this study demonstrated that the three dimensions of service innovation, namely Service Concept, Service Process, and Technology, had a positive and substantial influence on customer satisfaction among Kathmandu Valley commercial banks. These findings were in line with previous research (Nguyen et al., 2014), (Kofi Wireko, J., & Ameme, B. 2016), (Mahmoud, 2017), (Muhammad I. H & Muhammad U.A., 2018), (YuSheng K. and Ibrahim M., 2019), (Kurniawan. B, Nirwanto. N, Firdiansjah. A., 2019), (Balakrishna.R & Prabhu.B, 2020). This implies that the innovation adoption with core and reliable services, quick service process and the sophisticated technology in the Nepalese banking sector also can be effectively influence the customer Satisfaction.

Secondly, this study found that the Service Delivery has significantly positive influence on the customer satisfaction directly. Once the customers experience the unsatisfactory services from the banks, they are likely to switch to the other and the bank is unable to retain the customers whatsoever. Thus, it is backed by the similar research (Shrestha, 2018), (Dhakal.D, 2020) and (Swallehe. O, 2020) agreed to the statement.

Furthermore, the study demonstrates the service delivery's mediating function in the link between Service Innovation and Customer Satisfaction. Previous investigations (Hurley and Hult., 1998), (Lovelock and Wright, 2002), (Lin, 2011), (Yaşlolu et al., 2013) and

(YuSheng, K. and Ibrahim, M., 2019), have shown similar results. This is a significant finding that adds to the current literature on service industry innovation.

Furthermore, this study backs up the previous research conclusion about the link between two factors, namely service delivery and customer satisfaction (Dhakai, 2017). This conclusion confirms that customer happiness is one of the competitive variables in gaining market share and customer large preferences for Commercial Banks that are consistently pursuing a competitive advantage in the banking industry's service delivery.

## **5.2 Conclusions**

The services the consumer seek is never the same, over the time. Consumer always seek for the improved and quality service with the improvement and advancement in technology. In banking services, one will always opt to use advanced and improved technology such as use of card or digital payment, online fund transfer, QR payment, e-banking, mobile banking etc. i.e. in simple ways, we can say that the consumer wants banking services in their hands without the requirement to visit in bank physically.

The commercial Bank has grown to be more competitive and innovative. Service Innovation has brought privilege to the customer, along with that it has become the competitive advantage to the Banks to stand out with the service delivered. Customer always seek uniqueness in the service delivery as their foremost priority followed with easy and quick service process and user friendly technology. Customer satisfaction, hence, plays the vital role at the end for the organization success. Service Innovation with good service delivery, if not taken care, will likely to lead to customer dis-satisfaction. So, it is very essential to be cautious with customer preferences and the service seeking by the customer for the accessible and maintaining co-ordial relationship with customers. Banks should be cautious while delivery of services of clients with trust, reliable with the transaction, facilities provided with customization, accessibility, convenience to approach the organization from the clients. This is likely to affect the level of satisfaction and retain customer for longer period of time.

The study also has focused on the service delivery as the mediating role, which can become competitive advantage for a bank to deliver innovative services to the customers. All the banks provide the similar services, delivery approach shall distinct the organization from the other Banks. The recent method of providing services at doorstep is

followed by very few banks, which is likely to get attention from the customer working at office and unable to get to banks to receive their cheques or ATM card. The inquiry of the statement also can be provided through internet on their quick access desire. Thus, innovation has brought the privilege as well as the advancement in service delivery. The perfect combination of the innovation with the service delivery banks provides makes the customer loyal to the banks and likely to influence the same group with word of mouth references as well.

While study, the customer preferences followed with the excessive use of the ATM card has been the major choices, which was introduced very long back with the changes followed in the banks. Likewise, The current situation has induced the importance of innovation among the customer and their applications. The other innovative approaches banks has introduced of contactless ATM card, Digital Payment, connect IPS has been the greatest evolution and acceptance till date.

### **5.3 Implications**

The study's present findings have a variety of ramifications for the commercial banking sector as well as future scholars in other disciplines. Because the research topic is new to Nepalese Commercial Banks, it has taken into account innovation in service and quality service delivery in order to investigate its influence on customer satisfaction. The findings may aid the management in improvising, implementing, and formulating a strategy in such an organization in order to deliver new services with a competitive edge and increase customer satisfaction. Prioritize the issues that appear to be vital in order to please clients and provide quality services. In addition, the present findings will serve as a foundation for future study into this topic.

#### **5.3.1 Practical Implication**

The outcomes of this research demonstrate that innovative services have a favorable and substantial association with service delivery and customer satisfaction. Service Concept has the greatest impact on Service Delivery and Customer Satisfaction of all the characteristics of Service Innovation. This means that businesses may improve their competitive advantages by improving product differentiation and introducing innovative ideas into their goods, which will not only meet customers' wants but also raise customer satisfaction.

Furthermore, this study effectively addressed the research gap on the influence of Service Innovation and Service Delivery on Customer Satisfaction. So, while financial institutions' investments in innovative services, such as service idea, service process, and technology, would increase company costs in the near term, their influence on firm performance and competitive advantage will be realized in the long run. Thus, commercial bank manager must make sure that incorporating innovation into their banking services is critical in this modern banking period in order to meet the demands of clients while also assisting in the formulation of strategies and gaining competitive advantages over rivals.

### **5.3.2 Implications for Future Research**

The major focused objective of this study was to examine the influence of the service innovation using the service delivery on the customer satisfaction in Nepalese commercial Bank. Similarly, it also highlights the influence of the customer satisfaction with service delivery on innovative services provided by the banks through the SI dimension. It has used the three-dimension model of Service Innovation in study to examine their relation with the customer satisfaction in the context of the commercial banks in Nepal. It can help the research to explore this area in more detail in future. So, the study analyzes the service innovation, service delivery from the customer perception to provide the satisfaction for the services. So, analyzing the overall and cumulative view point of the customer, the satisfaction of the customer could be better studies with the holistic view of the service delivery so the future researcher could consider this. This research takes a cross-sectional method to better understand how customers react to innovation in services followed by the quality service delivery. Future research may use a longitudinal research design to shed light on how customers' satisfaction impact by the service innovation and service delivery as customers become more familiar with the service provided.

The correlation between service innovation and customer satisfaction was mostly determined by service delivery. As a result, future study might look at the function of service delivery as a mediating factor in the link between Service Innovation and Customer Satisfaction. Furthermore, this study was limited to customers of commercial banks in the Kathmandu Valley, which limits its universal applicability. As a result, future research should focus on big and diversified societies, as well as other financial

sectors. Furthermore, the quantitative research approach was used in this study. As a result, future studies might use a qualitative research approach, which would allow for a more expressive picture of consumers, provide more substance to the study, and provide a more in-depth knowledge of Service Innovations. Finally, the outcomes of this study are expected to be constructive and useful to practitioners, scholars, bank managers, and policymakers, as well as contributing to relevant and future study references.

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## APPENDIX

### QUESTIONNAIRE

Dear Respondent,

Greetings!!

I am Smriti Shree Shrestha, a student of School of Management, Tribhuvan University. This questionnaire is a part of Graduate Research Project for a completion of my Master's Degree in Finance and Control. This is a survey of your views and opinion about the impact of service innovation and service delivery on customer's satisfaction of Nepalese Commercial Bank.

I would like to request you to separate a couple of minutes from your valuable time in filling this questionnaire. This study is carried out purely for academic purpose and only be presented with utmost confidentiality.

### DEMOGRAPHIC CHARACTERISTICS

Name: .....

Gender:        Male

                  Female

Age:            20 and below

                  21-40

                  40-60

                  Above 60

Monthly Income:    Upto 50,000

                          Rs. 50,000- Rs. 100,000

                          More than Rs. 100,000

<b>Innovative Banking Service Preferred</b>	<b>Yes</b>	<b>No</b>	<b>I don't know</b>
Normal ATM Card			
Contactless ATM Card			
E- Banking			
Mobile Banking			
SMS services			
Online Customer Service			
Digital Wallet			

### **SERVICE INNOVATION (SI)**

Please indicate your level of agreement or disagreement with the statements below.

Strongly Agree (SA)=5, Agree (A) = 4, Neutral (N) = 3,

Disagree (D) = 2, Strongly Disagree (SD) = 1

S. N	Service Concept	SA 5	A 4	N 3	D 2	SD 1
1	My bank provides all the innovative services: (E-Banking, Mobile Banking, Cards (Debit /Credit), ATM, Digital Wallet).					
2	My bank provides me with customized banking options.					
3	My bank provides with different product and services in unique concept and design, compared to preceding services.					
4	My bank provides with different product and services in unique concept and design, compared to competing services.					
5	My bank provides with the different service experience compared to the preceding services.					

S. N	Service Process	SA 5	A 4	N 3	D 2	SD 1
1	My bank has online service option.					
2	My bank uses modern interaction media.					
3	My bank has automated service options.					
4	My bank offers quick and easy call center support.					
5	My bank provides creative and innovative marketing services.					



S. N	Technology	SA 5	A 4	N 3	D 2	SD 1
1	My bank has adapted with latest technological.					
2	My bank has many innovative features.					
3	My bank is always first on the market with the latest technology.					
4	My bank has improved its delivery system with the new innovation.					

### Service Delivery (SERVD)

Please indicate your level of agreement or disagreement with the statements below.

Strongly Agree (SA)=5, Agree (A) = 4, Neutral (N) = 3,

Disagree (D) = 2, Strongly Disagree (SD) = 1

	Service Delivery	SA 5	A 4	N 3	D 2	SD 1
Reliability	My bank has a clear service protocol and is dependable. My bank has a good procedure and system to store customer data. My bank provides a correct end-to-end service process.					
Assurance	My bank officers have good knowledge and can do their job well. My bank officers correctly operate their service and make me feel safe when making transactions. My bank officers are polite and provide service with proper manner.					
Tangibility	My bank has up-to-date service equipment. My bank's physical facilities are clean and visually appealing. My bank has enough electronic machines for self-service transactions.					
Empathy	My bank officers take good care of me. My bank officers know my needs and provide information accordingly. My bank officers clearly explain any problem situations.					

Responsiveness	My bank officers promptly attend to my needs.					
	My bank officers provide convenience service without a burdensome process.					
	My bank officers are responsive and able to solve my request.					

### CUSTOMER SATISFACTION (CS)

Please indicate your level of agreement or disagreement with the statements below.

Very Satisfied (VS) = 5, Satisfied (S) = 4, Neutral (N) = 3,

Dissatisfied (DS) = 2, Very Dissatisfied (VDS) = 1

S. N	Customer Satisfaction	VS 5	S 4	N 3	DS 2	VDS 1
1	Overall Satisfaction with the Online banking services.					
2	Overall Satisfaction with the Mobile banking services.					
3	Overall Satisfaction with the ATM services *24X7.					
4	Overall Satisfaction with the use of card service.					
5	Overall Satisfaction by innovative services provided by the bank. (Digital wallet, Connect IPS)					
6	Overall Satisfaction, with the banking service offering.					