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Application of SERVQUAL Model to Gauge Relationship between Service Commitment, Trust, and Price Fairness to Customers Loyalty: Empirical Evidence of Telecommunication Users in Nepal

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Abstract

Background: The service sector, a significant contributor to global GDP, is increasingly focused on innovation, particularly in the telecom industry. Despite its importance, research on how service commitment, service trust, and price fairness affect customer loyalty within Nepal's telecommunications sector remains limited.

Objective: This study aims to investigate the impact of service commitment, service trust, and price fairness on customer loyalty in the mobile telecom sector in Kathmandu Valley. It seeks to apply the SERVQUAL model to assess how these factors influence customer retention and satisfaction.

Method: An explanatory research design was employed using a quantitative approach. Data were collected through a structured questionnaire from 404 telecom users selected via purposive sampling. The analysis was conducted using structural equation modeling (SEM) with confirmatory factor analysis and path analysis, employing software tools such as KOBO Toolbox and AMOS to examine the relationships among variables.

Result: The findings indicate that service commitment, service trust, and price fairness significantly impact customer loyalty. Service trust and price fairness were found to have a positive and significant effect on loyalty, with price fairness exhibiting a partial mediating role between service commitment and customer loyalty. The study also highlights that telecom firms' ability to enhance customer satisfaction is closely linked to their service innovation and commitment.

Conclusion: The research underscores the importance of service commitment, trust, and price fairness in fostering customer loyalty within Nepal's telecom sector. Telecom service providers are encouraged to focus on these areas to improve service quality and customer retention. The study offers valuable insights for enhancing customer satisfaction and achieving long-term loyalty in the telecommunications industry.

Paper Types: Research Paper

Keywords: Telecommunication Service; Commitment; Service Trust; Price Fairness; Customer Loyalty; SERVQUAL model; Structure Equation Model.

JEL Classification: D12, L86, L96, M31

Introduction

In today's world, rising competition is not only making business environment challenging, but is also making firm's success and survival more strenuous. Nearly half of the world's population still lacks connectivity, despite the amazing improvements in connectivity over the past ten years, primarily due to the widespread adoption of mobile phones (Portillo et al., 2021). Individuals who are price sensitive are unlikely to pay a high price for the services. Telecommunication sector faces difficulty in making pricing decisions due to lack of understanding about their consumers' price sensitivity levels and patterns (Ellison, 2004). From the side of customers, they feel more satisfied and loyal when they receive expected service quality via a robust telecom network. Network and coverage yield positive impact on consumer satisfaction which includes network quality, signal strength, voice quality, and call disconnection, thereby painting a strong picture about the service provider in the minds of the customers (Dahal, 2019).

Greater understanding of customer loyalty is crucial for telecom industry since it ensures a company's long-term business survival and success (Yaqub et al., 2019). This study focuses on the accuracy of how the individual assessment is carried out as well as the measurement of customers' willingness to pay for mobile telecommunication service bundles. Kushwah and Bhargav (2014) attempt to analyse the gap in service quality of telecom sector in terms of customers' expectations and perceptions regarding mobile phone services. They show how usage-based plans employ data and voice-minute allowances to segment customers according to their needs (Wong, 2010). With this study, we aim to provide more precise tools of assessment for telecom service providers to better price their products. Goal is to also draw clients' attention to their mobile services, as telecom service providers frequently pair a service package with cell phone. Pricing from end-users' perspective would help in developing strategies for better quality of service in Nepal.

Several studies on customer satisfaction have been conducted in the past. Empirical evidence suggests that researchers and telecom firms are keen towards investigating customer loyalty and its effects on company growth and survival. The survival and success of telecom companies greatly depends on their ability to create new services which value and satisfy customers' needs. This encourages telecom service providers to continuously investigate and improve their service structure. A number of studies in this area has been carried out globally but only a few conducted in the Nepalese context which specifically focus on the telecom service industry (Dahal, 2019; Paudel & Bhattarai, 2018; Regmi, 2017; Shrestha & Ale, 2020). It creates lacunae of empirical research explaining the linkages of pricing strategies and customer loyalty in Nepalese telecom industry. To meet client needs, telecom businesses nowadays are struggling greatly. Beyond just focusing on telecommunication pricing, the study has given attention to how price plans affect loyalty of consumers, the list of determinants of service quality, trust and commitment to customer loyalty for telecom service user. We question how customers make logical decisions while using telecom services and what challenges are faced by service providers in Nepal. We mainly try to study the relationship between telecommunication service quality, commitment and trust to customer loyalty of telecommunication service users in Kathmandu Valley. In addition, we examine the role of price as mediating variable in consumer loyalty - telecom service nexus. We endeavour to analyze the major challenges faced by customers and based on the findings recommend managerial solution for overcoming challenges faced by telecom industry.

In terms of customer loyalty, the study provides a thorough foundation for service quality dimension and pricing fairness. These findings may help planners, policy makers, government, telecom service providers and researchers to know the existing impact of telecommunication in the study area. This study also serves as a roadmap for future researchers by giving baseline data for large scale studies that will be more reliable and can be generalized. The study would prove equally beneficial for companies seeking a long term engagement with customers. It will also allow them to determine how many of their

competitors use comparable pricing techniques, allowing them to position themselves competitively. The study will also give telecommunication service providers insight into the impact of pricing strategy on telecom users while making purchase decisions, allowing them to develop the best pricing plan for their target market.

The rest of this paper is organized as follows. The literature review is presented in Section 2 and the research model and development of the hypotheses are discussed in Section 3. Section 4 discusses the research methodology and data analysis procedures. Then, in Section 4, the study results are presented, and in Section 5, the study findings are discussed. Section 6 discusses the study's theoretical contribution and managerial implications. Finally, in Section 7 we summarize the study's findings and limitations, and provide future recommendations.

Review of Literature

The communications word, derived from the Latin word communication, the social process of information exchange, covers the human need for direct contact and mutual understanding. Humans were also faced to many difficulties in transmitting their messages and desires within the field of spoken and needed more advancement means of communication, which led to a great invention in Greece, around 700 B.C (Samimi, 2021). It was the invention of alphabet, which acted as a bridge that connected speech and writing with each other. Due to closeness and proximity of these two phenomena, humans were able to think for transmitting their thoughts and sending them to others. Underlying of historical turning point is evolution of three thousand years oral tradition and non-alphabetic communications that has been identified as the beginning of qualitative transformation of human communications (Castells, 2011).

Since the final decade of the twenty-first century, the rapid global expansion of mobile telephony has drawn scholarly interest. The majority of attention in wireless in the early years of cellular systems was concentrated on circuit-switched voice communications (Wong, 2005). Over the 50 years and 5 generations, the mobile telecommunications environment has changed. The evolution of mobile communications from 1G to 5G reveals a rise in the number of people who are mobile-connected (Jia et al., 2018) .

Telecommunication Pricing in the Global Context

The communications word, derived from the Latin word communication, the social process of information exchange, covers the human need for direct contact and mutual understanding. Humans also faced too many difficulties in transmitting their messages and desires within the field of spoken and needed more advancement means of communication, which led to a great invention in Greece, around 700 B.C (Samimi, 2021). It was the invention of alphabet, which acted as a bridge that connected speech and writing with each other. Due to closeness and proximity of these two phenomena, humans were able to think for transmitting their thoughts and sending them to others. Underlying of historical turning point is evolution of three thousand years oral tradition and non-alphabetic communications that has been identified as the beginning of qualitative transformation of human communications (Castells, 2011).

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Table 1: Timelines of Telecommunication

Stages	Details
Prehistoric	Fires, Beacons, Smoke signals, communication drums, Horns[1]
6th century BCE	Mail[2]
5th century BCE	Pigeon post[3]
4th century BCE	Hydraulic semaphores[4]
1670-1790s	First experimental acoustic telephone, Semaphore lines (optical telegraphs)[5]
Basic electrical signals 1838-1880	
1830s-1850s	Beginning of attempts to develop "wireless telegraphy", systems using some form of ground, water, air or other media for conduction to eliminate the need for conducting wires, Electrical telegraph was invented, First trans-Atlantic telegraph cable[6]
1860-1880s	Signal lamps, Telephone Acoustic phonograph, Telephony via light beam photophones[7]
Advanced electrical and electronic signals	
1890-1940s	First practical wireless telegraphy systems based on Radio. First North American transcontinental telephone calling, First commercial radio-telephone service in UK and US, First experimental videophones[8]
1946-1960s	Limited capacity mobile telephone service for automobiles, first working transistor, semiconductor era begins, transatlantic telephone cable[9]
1962-1980s	Commercial telecommunications satellite, fiber optic telecommunications, computer networking, first modern-era mobile (cellular) phone, first cellular phone network, mobile satellite hand-held phones, VoIP internet telephony[10]

Sources: 1= Wilton (2016) 2= Dillman(1978) 3= Altham (1900) 4= Oppitz & Tomsu (2017) 5= Lopez et al.(2015) 6= Haupt (2019) 7= Nelson(2014) 8= Yadav (2011) 9= Balodis & Opmane (2012) 10= Savery & Graham (2013)

In global context, looking back at of telecommunications pricing, in the 1990's the rapid and sustained growth rate was accompanied by profound changes in the telecommunications markets (Colecchia & Schreyer, 2003). The total cost of mobile telecommunications services for a subscriber includes not only the fee required to use the services, but also the price of any associated goods and the standard of the service (Yun et al., 2019). However, to assume average subscribers and compare one country's service price based on an optimal pricing scheme, with prices in other countries which simply reflect aggregate consumption expenditures in each country. Some of the critical aspects of telecom industry includes network sharing concerns, tariff fixation, cross-border gateways, and pricing rules, international connectivity to name a few (Khanal, 2022). Since the introduction of cellular technology, service capacity has steadily increased in order to satisfy the increasing demands. Mobile telecommunications technology is forward focused in providing faster data transfer speeds and seamless network capabilities (Dunnewijk & Hultén, 2006). Price revision immediately affects subscribers' consumption pattern.

Telecommunication in Nepal

Looking back to history of telecommunication in Nepal, in 1913 the first telephone connection was installed in Kathmandu with an open-wire trunk connecting Kathmandu and Raxual, India in 1914 (Parajuli, 2015). Competition in the mobile phone service sector has been intense and aggressive across

the globe and in Nepal without exception. In recent years, Nepal's mobile market has matured and has undergone extreme rapid growth. Over the last seven years, mobile broadband penetration has increased dramatically, owing to an increase in the number of 3G and 4G mobile customers (See Table 2). However, the mobile broadband sector is still in its early stages, with penetration well below that of most other Asian countries. In Nepal, information and communication technology is fast developing. Mobile phones, internet access, FM radio, television, e-newspapers, online media, and social media have all grown drastically (Giri & Giri, 2022). According to the most recent data, eight businesses have been granted licenses to provide voice-based telephony services, five of which have significant foreign investment. Many foreign firms are interested in the telecom investment sector, as is the Nepal Telecommunications Authority, which must develop legislation on the spot (Paudel & Bhattarai, 2018).

Table 2: Timelines of Telecom Service in Nepal

Time Period (AD)	Descriptions
1913-1915	First telephone lines are started in Kathmandu, the installation of an open wire trunk line from Kathmandu to Raxaul, India[1]
1930-1960	Installation of 25 lines automatic exchange in Royal Palace, Distribution of telephone line to the general public, First Public Telephone Exchange in Kathmandu[1]
1964- 1980	Beginning of International Telecommunications Service called HF Radio to India and Pakistan, First Automatic exchange in Nepal where 1000 lines in Kathmandu, Establishment of digital Telephone Exchange[1]
1984- 2000	Commencement of STD service, installation of Optical Fiber Network, Conversion of all Transmission link to Digital transmission link, Automation of the entire Telephone Network, Independent Int. Gateway Exchange established, Introduction of VSAT services, Digital Link with D.O.T. India through Optical Fiber in Birgunj to Raxual, Launching of GSM Mobile services, Implementation of SDH Microwave Radio, Launching of Internet Service[1]
2002- 2010	GSM Prepaid Service, Prepaid Calling Card Service, Access Network Services, CDMA Limited Services in Kathmandu Valley, GPRS, 3G, and CRBT Services introduced in GSM Mobile, Post-paid CDMA Mobile Service started[2]
2011-2020	Launching of GSM 3G Data Only Service, launches 4G Service in Nepal, NTC starts the migration of old TDM landlines to IP based phones, launches 4G Service in Nepal, NTC starts the migration of old TDM landlines to IP based phones, 4G reaches to all 77 districts of Nepal[3]

1. Source:1= Whalley (2006), 2=Shakya (2016), 3= Shrestha and Ale (2020)

Telephone is no longer a status symbol as it was treated in yesteryears. It was quite a difficult and lengthy process for one to have a telephone connection at his/her home. Currently, network providers in Nepal provide voice calls, voice messages, short message service, multimedia messaging service, internet, international roaming, and information services such as news, stock prices, and weather. Operators are eager about ensuring better offerings for consumer satisfaction now and in the future. They are all competing for clients by offering a diverse range of services based on customers' demand. Nepal has emerged as a progressive and competitive telecom market in the current telecom landscape. There are currently some telecom operators in Nepal that offer a diverse range of services. When the private sector began to meet government monopoly, the government of Nepal's liberalization efforts caused the telecommunications commercial enterprise to leap and emerge as easily available to the general population at affordable prices (Dahal, 2019). The last decade the advent of 4G technologies

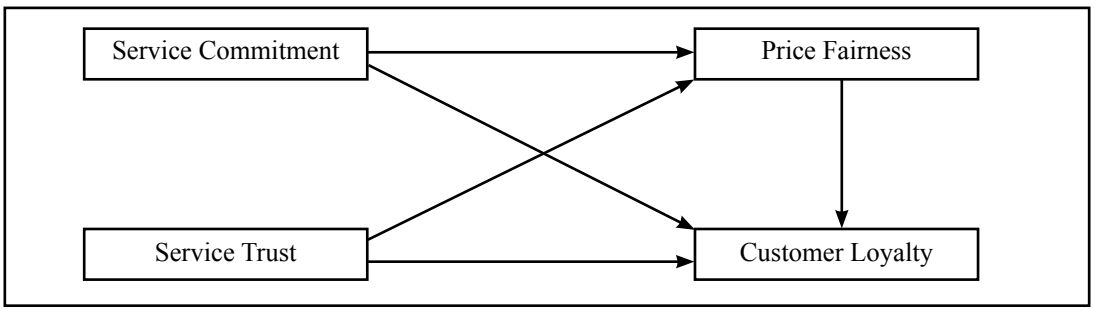
has continuously changed the perspective of a typical telecom customer demanding simple voice-based service to that of content-driven services like video calling, OTT platforms, mobile banking (Kumar & Bose, 2022). However, most of the research concentrate on developed countries rather than developing countries and adequate theoretical framework to provide a better understanding of the views of people is needed (Devkota et al., 2022). The Nepali policy circle has an implicit belief in the potency of internet infrastructure to uplift national development. Such beliefs are often explicated in the policy documents themselves in the forms of claims like the proposed infrastructure would contribute significantly to portion the economic growth. The policy makers need to acknowledge that the relationship between Internet and development is not pre-determined. Nepal has low internet access, quality, and affordability.

Conceptual Framework

A conceptual framework acts as a blue print that shows the relationship among the concepts (Dahal, 2020). It outlines the core methodology used in this investigation. We develop a conceptual framework based on the nature and scope of this study and on the basis of previous research and theoretical underpinnings. A conceptual framework assists in identifying data generating process and its analyses. It comprises the researcher's thoughts, structures, thinking, actions, plans, practice, layout, and implementations of the whole study (Kivunja, 2018).

The study relies upon SERQUAL which captures and measures the service quality experience of the customers. This model measures the variation among what the customers expectation and perception (Shah, 2021). After thorough study of literature, factors which deal with the service quality dimensions are used to show the relationship between customers' service commitment and customer loyalty with trust impact on pricing acting as a mediating variable. Customer loyalty is evaluated as the key to success in the competitive telecommunications business (see figure 1).

Figure 1: Conceptual Framework



Source: Adapted and modified from Kalia et al.(2021)

This conceptual framework is a modified form of the study of determining the role of service quality, trust and commitment to customer loyalty for telecom Service users by Kalia et al.(2021). In total, five constructs are used in this study. Service Commitment and Service trust are set as independent variables, Price as mediating variable which shows the impact on the customer Loyalty. Consumer Loyalty is the dependent variable in the study. Factor service quality dimensions used in the study shows the relationship between service commitments, trust and price fairness to customer loyalty for telecommunication service user in Nepal.

Hypothesis Setting

Service Commitment and Customer Loyalty: Customers' commitment to telecommunication services define customer commitment as lasting or enduring intention to build and maintain an on-going relationship (Morgan & Hunt, 1994). To retain a connection with a telecom service provider that

has the ability to create functional and emotional advantages is known as commitment. It's merely a desire to keep a connection with a specific telecommunications service provider. An empirical study that examined how customer loyalty could be developed from the dimensions of service quality and customer commitment (Morgan & Hunt, 1994) exerts that customer commitment has multiple components and it is important to recognize that the components of customer commitment may have the same effect on customer loyalty. Commitment goes beyond the assessment of the benefits and costs since it is also oriented towards a long-term relationship with a lasting desire to maintain value derived from customer. It becomes a useful factor in measuring customer loyalty and predicting future purchase frequency (Henao Colorado & Tavera Mesías, 2022,Thakuri et al., 2023, Gautam et al., 2023). The few previous studies that examined the relationship between the two variables tested service quality as a composite construct (Chomvilailuk & Butcher, 2014; Davis-Sramek et al., 2009).

H1: There is a relationship between Service Commitment and Customer Loyalty in Telecommunication Service Users in Nepal.

Service Trust and Customer Loyalty: Trust is viewed as a belief or sentiment that comes from reliability. It is perceived to create confidence based on integrity and reliability. It acts as a direct measurement and powerful means of Customer Loyalty. Customer loyalty is a process of creating customers' intention to perform repeated purchases to a specific service (Zeithaml et al., 1996). So, the relationship between the Service Trust and Customer Loyalty is an essential driver for gaining the loyalty of the customers (Reichheld & Schefter, 2000). The role of trust to enhance customer loyalty and facilitate value creation imperative (Sirdeshmukh et al., 2002). More trust with a service provider leads to less loyalty to another (Nelson & Kim, 2021). It is based on the display of benevolent behavior, integrity, and judgment because it implies the willingness to benefit others and making decisions that offer advantages to all the parties, thereby motivating customers to behave in a loyal manner, reciprocally, and taking risks (Porter and Donthu 2008; Ebrahim 2020).

H2: There is a relationship between Service Trust and Customer Loyalty in Telecommunication Service Users in Nepal

Price Fairness and Customer Loyalty: Usually, customers believe that higher the prices of product or services, higher will be the service quality and vice versa. So, customer use price as an indicator to judge quality. It is closely related with fair pricing on product/service that leads to customer loyalty in the direction of corporation and both price level and price fairness influences on customer Loyalty (Semuel & Chandra, 2014). Telecommunications offerings are undifferentiated services and therefore, cell phone subscribers will be willing to pay for offerings solely when they are satisfied, otherwise, they will swap to another operator (Dahal, 2019). Rising customer expectations and price consciousness, advancement of technology, lack of product differentiation and consumer choices have posted more challenges for customer retention (Ing et al., 2020). Price is considered as an instrument that highly affects the purchasing behavior of the customer. Understanding the customer's behavior towards price perception assists the companies to develop such pricing strategies that create Customer Loyalty. Price is a measurement of quality for customers (Zeithaml, 1988). Customers tend to use price to make general assumptions about what service quality to expect (Lichtenstein et al., 1993).

H3: There is a relationship between Price Fairness and Customer Loyalty in Telecommunication Service Users in Nepal

Service Commitment and Price Fairness: Commitment is viewed as a psychological attachment that results in Customer Loyalty. In their study reported that commitment has a strong effect on loyalty. It indicated the association between commitment and Customer Loyalty. Additionally, as far as could be established, no study has examined the mediating effects of the various components of commitment on the links between service quality dimensions by meditating price and customer loyalty (Zietsman et al., 2019). Price perception is a vital instrument in setting the significant behavior of customers, either

it increases or decreases customer satisfaction and trust in establishing Customer Loyalty (Hassan et al., 2013).

H4: There is a relationship between Service Commitment and Price Fairness in Telecommunication Service Users in Nepal

Service Trust and Price Fairness: Price fairness has direct impact on price satisfaction, customer satisfaction and customer loyalty (Mahato et al., 2023); also price satisfaction has direct impact on customer satisfaction and customer satisfaction has direct impact on customer loyalty (Nazari et al., 2014). The relationship between service trust and price fairness depends upon various situational factors towards Telecommunication pricing process.

H5: There is a relationship between Service Trust and Price Fairness in Telecommunication Service Users in Nepal

Price Fairness as Mediator: Perceived price fairness has been identified as one of the psychological factors that have an important influence on consumer reactions, satisfaction, loyalty and price acceptance (Padula and Busacca, 2005; Martin-Consuegra et al., 2007; McMullan and Gilmore, 2007). Price fairness is a multi-dimensional psychological factor that has an important influence on customer reactions (Asadi et al, 2014). Research shows that consumers are worried about fair prices, especially if there is a price increase and consumers will not want to pay prices that are considered unfair.

H6: Price Fairness mediates the relationship of Service Commitment with Customer Loyalty for Telecommunication Servicer Users in Kathmandu Valley

H7: Price Fairness mediates the relationship of Service Trust with Customer Loyalty in Telecommunication Servicer Users in Kathmandu Valley.

Customer Loyalty: It is the buyer's deep commitment to service. Telecom companies need to develop a positive image of their products and services to hold and sustain loyal customers by developing a competitive edge in a challenging environment (Chaudhuri & Holbrook, 2001) observes loyalty as consumer preference towards goods or services and propose that loyalty leads the firm to capture greater market share (Hassan et al., 2013). This study introduces price fairness as a moderator to understand the possible variables affect the relationship between Service commitment and trust and customer loyalty. It is simply the desire to maintain a relationship with a particular telecommunication service provider. As the competition is always fierce, customer loyalty is essential for the telecom operators both in an economic as well as competitive sense. This makes it imperative for them to constantly track the factors driving customer loyalty (Saroha & Diwan, 2020). Customers who feel emotionally committed to a service provider will likely exhibit loyalty behavior. Customer loyalty is the consumer in the future will repeat purchase products or services they prefer (Wu et al., 2011). So, customer loyalty has been seen as a prime determinant in competitive market for the performance. Service commitment, service trust and price are frequently viewed as key determinants of customer loyalty (Chen & Cheng, 2012).

Research Method

The Model and Variables

To validate the proposed model and to test the hypotheses, study employed quantitative and qualitative method to collect data taken from graduate students as a primary source. Data was collected from students of different universities as they belong to an age group that can provide critical and logical reasoning on service quality being served. As a result, the purposive probability sampling method was adopted to target the respondents, because the likelihood of accessing all respondents and having them available at a specific time was bleak, especially when using the self-administered collection

method. The telecommunication industry was chosen for this study due to its highly competitive business environment; the industry's dilemma of market saturation, a high churn rate alongside high operational costs; and the critical importance of innovation for sustaining profitable growth; especially for Nepalese telecommunications market.

Structural equation modelling (SEM), often known as Path analysis, is a multivariate method for testing hypotheses for associations between interacting variables (Mišić & McIntosh, 2015). In the social and behavioral sciences, structural equation modelling (SEM) is a prominent approach that is being used to more complicated data sets. Variable selection in high-dimensional scenarios, modelling of extensive longitudinal data, and analysis of complex online survey studies are now all possible with SEM enhancements. When using SEM on high-dimensional data, parameter penalization is required, and specific model types, such as genomic SEM or network models, can result in different objective functions (Kesteren & Oberski, 2019).

Generally, the measurement model discussed in Aydin and Özer (2005) is specified as:

$$y = \Lambda y\, \eta + \varepsilon \quad \ldots\ldots (1)$$

$$x = \Lambda x\, \xi + \delta \quad \ldots\ldots (2)$$

The structural equation model is specified as:

$$H = \alpha + \beta\eta + \Gamma\xi + \zeta \quad \ldots\ldots (3)$$

Where,

y = outcome variables

x = input variables

Λy = latent variables (observed response variables)

Λx = latent variables (observed response variables)

ε and δ = error

η = latent variables (observed response variables)

ξ = latent variables (observed response variables)

The y and x measurement errors are represented by the vector ε and δ. The vector ε and δ are measurement errors in y and x. Both of latent variables (η and ξ) are unobserved, the observed response variables y and x are used to estimate the factor loadings (Λy and Λx) on these latent variables. The structural model parameter α is a vector of intercepts, β is the matrix of co-efficient for the regressions among the endogenous variables (ηi), which has zeros in the diagonal and $(I - \beta)$ is non-singular; Γ is a matrix of coefficients of exogenous latent variables (ξ) in the structural relationship; and ζ is a random vector residual.

However, if there are errors only in y- variables, then the reduced form of the structural model in equations (1) – (3) can be expressed as:

$$y = \Lambda y\, (I-\beta)\, -1\, (\Gamma\xi + \zeta) + \varepsilon \quad \ldots\ldots (4)$$

Variable Definition

This section deals with the variables used for the study. The variables used for the study have been identified and defined. Firstly, there are five items of telecommunication pricing adapted for the study. The variables that will be used in the study have already been selected and outlined (table 3).

Table 3: Observed Variables and Description

Construct	Variable Id	Definition	Explanation
Service Commitment	SC_1	Superior Service	Operator provides superior service
	SC_2	Excellence	Offers excellent service
	SC_3	Sincere Interest	Sincere interest on timely service delivery
	SC_4	Accessibility	Ease of approachability and accessible with quality
	SC_5	Network Coverage	Network coverage reliability
	SC_6	Accuracy	Accurate information
Service Trust	ST_1	Confidentiality	Protection to confidentiality
	ST_2	Security	Regular courteous, secure
	ST_3	Patience	Patient in resolving problem
	ST_4	Customization	Customized services
	ST_5	Trust	Convey trust and confidence
	ST_6	Commitment	Delivery on promises committed
	ST_7	Credibility	Trustworthiness, honesty towards users
Price Fairness (Hassan et al., 2013)	PF_1	Attractive price	Offer the best possible price
	PF_2	Variety of price	Variety of pricing Schemes
	PF_3	Quality ratio	Good price with quality ratio
	PF_4	value for money	Reasonable price charged
	PF_5	Perceived Value	Full of return cost
	PF_6	Fairness	Fairness in Pricing policy
Customer Loyalty	CL_1	Frequency	Over again used
	CL_2	Connectivity/ connection speed	Stay connected
	CL_3	Continuity	Intend to continue using
	CL_4	Contractual relationship	Committed to the contractual relationship
	CL_5	Effort	Effort to preserve
	CL_6	Recommendation	Recommend/suggested to others
	CL_7	Encouragement	Encourage friends and relatives

Study Area and Population

The area used for the study is Kathmandu valley. Kathmandu valley represents Kathmandu, Lalitpur, and Bhaktapur, three main cities. Since Kathmandu valley is capital city of Nepal, the majority of the country's businesses (Karki et al., 2021) are based here and is one of the prime areas with the highest population density. Therefore, doing research in Kathmandu Valley provides for a more exact and reliable data for the study. Various telecom users in the valley are catering the needs of different customer's profiles. Kathmandu valley of Bagmati Province, Nepal, was selected as area of study

which lies between 27º 32′ 13″ and 27º 49′ 10″ latitude North and longitudes 85º 11′ 31″ and 85º 31′ 38″ East and 4,265 feet above sea level. The valley covers 665 sq. kilometers of a country as a whole (Rajbhandari & Nakarmi, 2014). Data for the study was gathered among Nepalese citizens from Kathmandu having residential telecom subscription. The outcomes of this study may serve as a foundation for future research that incorporates price fairness into their study model and in-depth examination of the consumer experience and usage frequency. By focusing on strategies to enhance customer satisfaction, telecom operators may encourage users to stay with their network for long durations. This study is mainly focused on the graduate students from Kathmandu valley.

The target population of this study were customers of Kathmandu, Lalitpur and Bhaktapur. In this study, the population is all telecom service users especially mobile phone subscribers (graduate Student) who use mobile phone services and subscribe to one or more of SIM service in the Kathmandu Valley. According to the Census Report 2021, the population of Nepal has reached 29,192,480. According to Central Bureau Report 2021, the population of Nepal, Kathmandu has reached 2017532, Bhaktapur 430408 and Lalitpur 548401 (Central Bureau of Statistics Nepal, 2022). Among them, according to Ministry of Education Science and Technology, the total number of students enrolment in higher education as per university is 435408 (Ministry of Education, 2021). The population of the study includes only the management students who belong to Pokhara University, Kathmandu University, Tribhuvan University and Purbanchal University in Kathmandu Valley. These universities affiliation colleges are selected because they are situated in key locations spread over Kathmandu valley. The study particularly focused on these universities' students because respondents' views were considered to serve as a fair representation of mobile telecommunication users. Hence, making it possible to generalize the findings of the study, the approximated total population size of 435408 formed the total number of students under the study.

This study has used the probability sampling because the size of population is known. The term "probability sampling" refers to the fact that every item in the population has an equal chance of being sampled (Acharya et al., 2013). The population of the study known of the Kathmandu valley the study has used probability sampling because every member of a population has known. So, the total population for this study is manageable size in terms of answering the research question, collecting data, and analyzing data for the study. By analyzing the usage profile of each customer and the different price plans proposed by competitors, we are able to identify the best offer for each customer and derive the competitive price index reflecting the gap between the current price/value for each customer and the price/value available in the market for the customer based on the customer's actual usage. Customers are generally willing to pay more for the service. A price increase will be positive as its impact on revenue is higher than the potential decrease of loyalty. Random purposive sampling technique of probability sampling is taken where respondents are randomly spread on the basis of universities. It has been used to investigate the impacts of service commitment, trust and price fairness on customer Loyalty.

Sampling Technique and Sample Size Determination

Sampling is a technique (procedure or device) employed by a researcher to systematically select a relatively smaller number of representative items or individuals (a subset) from a pre-defined population to serve as subjects (data source) for observation or experimentation as per objectives of his or her study (Sharma, 2017, Paudel et al., 2018). The study has used the probability sampling because the size of population is known. So, the total population for this study is manageable size in terms of answering the research question, collecting and analyzing data. The study has used purposive sampling techniques where respondents are purposively taken for the representation of graduate's students based on different universities to investigate the impacts of service commitment, trust and price fairness on customer loyalty.

The sample size is imperative to draw sizeable inferences about the population. Any evaluation or analysis that aims to stimulate the population sample must include the sample size (Wright et al., 2012). The study has taken 403 customers/ Telecom users as sample size. They are selected based on the issues such as willingness and the time allotted by the respondents for the collection of information. Measures were adapted and modified to make them more suitable for this research setting. Primary data from prepaid mobile telecom customers were captured using a structured questionnaire, finalized after pilot testing. All the items constituting the questionnaire were compiled after a thorough review of literature (Rajini & Sangamaheswary, 2016, Devkota et al., 2020).

The sample size was calculated by using following formula.

$$n = N*X / (X + N - 1),$$

where,

$$X = Z\alpha/2^2*p*(1-p) / MOE^2$$

And $Z\alpha/2$ is the critical value of the traditional distribution at $\alpha/2$ (e.g., for a confidence level of 95%, α is 0.05 and also the critical value is 1.96), MOE is the margin of error, p is the sample proportion and N is that the population size. A finite population correction has been applied to the sample size formula.

$$X = (1.96)^2*0.5(1-0.5) / (0.05)^2$$
$$= (3.8416* 0.25) / 0.0025$$
$$= 384.16\approx 384$$

Now,

$$\text{Sample size (n)} = N*X / (X + N - 1)$$
$$= 435408*384 / (384 +435408-1) = 383.66\approx 384$$

We also add non-respondent error 5%

i.e., $384*0.05= 19.2\approx 19$

Thus, the sample size taken for the study is $n = 384 + 19 = 403$

Based on the above and subsequent calculations, a sample size of 403 students was arrived at. The sample size was spread among the campuses, as shown in table 4.

Table 4: University wise number of respondents

University	Total	Mobile Users	Mobile User's Percentage	Total sample
Tribhuvan University	356654	320989	80.30%	323
Kathmandu University	18643	18643	4.66%	19
Pokhara University	27527	27527	6.89%	28
Purbanchal University	32584	32584	8.15%	33
Total	435408	399743	100%	403

Research Instruments and Data Collection

Structure questionnaire with interview was the main research instrument used in this study. A structure questionnaire has been developed and devised to conduct survey as well as obtaining primary data on telecommunication service pricing for data collection. The researchers have linked questionnaire in order to meet the various objectives mentioned above in the study. Both open and close-ended question were designed to address the issue of study which were in an understandable and easy language in order to convey the intent of questions. After the preparation of Questionnaire, the researcher focused on the sequencing and arrangement of the questions. The formulated structured questionnaires are

administered in KOBO toolbox for data collection. After this, a pilot survey of a few samples questions was tested with 12 respondents in order to confirm the consistency and viability of the instrument.

Data Analysis Technique

With the use of descriptive and inferential analysis, data analysis was carried out according to the approach below. Data were analyzed using descriptive and inferential methods, which included structural equation modelling based on multiple latent constructs in the inferential approach whereas for descriptive analysis different charts, tables and figures were constructed. Data analysis was done with KOBO Toolbox, SPSS and AMOS, while data entry and tabulation were done with Microsoft Excel. The statistical analysis of the data produced the following results, which are presented in the tables and graphs.

Descriptive Analysis

Descriptive analysis defines the phenomena by answering who, what, where, when, and to what extent. Whether it's to identify and analyze population patterns and variation, develop new metrics for important phenomena, or describe study samples to find causal relationships, description is essential to the scientific method (Loeb et al., 2017). Descriptive statistics is the name given to a type of data analysis that helps to define, display, or summarize information in a comprehensible way (Stapor, 2020). The observations are organized and summarized using descriptive analysis (Kern, 2013). To acquire an overview of the entire data set, summary statistics comprising the computation of means, standard deviations, and ranges were performed (Farargy, 2009; Oakley & O'Hagan, 2004)

Inferential Analysis

Inferential analysis is a collection of approaches for estimating what the population characteristics, determining correlations, and finding association and influence between variable. The major area of inferential analysis is estimating parameter, inferences from specific data to more general situations and testing hypothesis (Kern, 2013). For data analysis, inferential statistics applications such as SPSS and AMOS are employed. SPSS AMOS is used through various processes from factor analysis to structural equation modeling. Using a purposive sample of data from a population, inferential analysis aids in the examination of sample data in order to predict and forecast future justice (Awale et al., 2023). It is based on the hypothesis-testing procedure and the theory of chance. Inferential statistics are used to extrapolate generalizations from study data (Taherdoost, 2021).

Data Analysis and Results

Socio Demographic Analysis

The socio-demographic characteristics represent the personal details about the respondents (Table 5). It has included age, gender, education level, marital status, educational level, student and college location were investigated as socio-demographic factors.

Table 5: Socio-demographic Profile of Respondents

Variables	Category	Number	Percentage (%)
Sex	Male	149	63.12
	Female	255	36.88
Age	18-20 years	68	16.83
	21-23 years	93	23.02
	24-26 years	153	37.87
	27-29 years	90	22.28

Variables	Category	Number	Percentage (%)
Marital Status	Unmarried	380	94.06
	Married	23	5.69
	Others	1	0.25
Education Level	Master	187	51.49
	Bachelor	193	48.51
University	Tribhuvan University	324	80.2
	Kathmandu University	20	4.95
	Pokhara University	28	6.93
	Purbanchal University	32	7.92
College Location	Kathmandu	234	67.08
	Lalitpur	78	24.46
	Bhaktapur	12	3.47

Source: Field study

There are altogether 255 (63.12 %) males and 149 (36.88%) females out of the total 404 respondents. It shows gender percentage of male respondents was higher. In the context of Nepal this representation is considerable. Similar study has been done where study results revealed that majority of the respondents are female which accounts for 68% of total respondents, while male were in minority. The result imply that employees in the telecommunications industry comprise more of the female gender (Christopher et al., 2022).

In similar research while analyzing the service quality and its Relationship on Customer Satisfaction of Nepal Telecom (NT) in Nepal conducted by Shrestha & Ale, (2020), it found that it is not necessary to launch offers keeping in view of age group, gender and marital status. Result also reveals the categorisation of respondents based on age divided into four groups. The majority of respondents were from age group 24-26 years; which is 153 respondents followed by that of age group of 21-23. The study been done on identifying factors influencing satisfaction and hence selection of mobile service providers among youth of Delhi University, studying demographic factors such as gender, course pursuing and monthly family income found that gender results in inter-circle connectivity differences (Tiwari & Mishra, 2021). Most of the respondents in our study were unmarried.

According to the socio-demographic statistics, the majority of respondents had completed their education up to the Master's degree level or above, with only a handful having obtained an intermediate level of education. This demonstrates that our country's educational system is a critical tool for achieving social, economic, and political development. A similar study was carried out in Pakistan by (Nasreem & Khan, 2016) where the authors found that the bulk of the respondents had been with the organizations for less than a year. The organization has fewer than 50 workers. Level of education of the respondents can affect their ability to differentiate between the services and quality of products across different telecom service providers. The survey is segmented also on the basis of college location in Kathmandu Valley. It has included graduate students of Kathmandu, Lalitpur and Bhaktapur where more than half of the respondents belonged to colleges in Kathmandu. Likewise, 24.46 % of them were from Lalitpur location and rest of 3.47 % Bhaktapur.

General Understanding of Telecommunication Pricing

To understand general understanding of telecommunication pricing among the respondents several mobile use of SIM card concerned related questions were asked. The study results are presented in table 6.

Table 6: Understanding of Telecommunication Pricing

Variables	Category	Numbers	Percentage
Year of using Mobile Phone	2005-2010	72	17.08
	2010-2015	144	35.64
	2015-2020	183	45.3
	2020 onwards	5	1.24
First SIM card used	Nepal Telecom	258	63.86
	Mero Mobile/ Ncell	156	38.61
	UTL	8	1.98
Present SIM Card Users	Nepal Telecom	324	80.2
	Mero Mobile/	187	46.29
	Ncell	12	2.97
	SmartCell	4	0.99
Years of relationship with Company	Less than 3 years	19	4.7
	3-6 years	122	30.2
	6-9 years	126	31.19
	More than 9 years	137	33.91
Purpose to use Telecom Service	Call	402	99.5
	SMS	253	62.62
	Data Pack	168	41.58
	International Call	43	10.64

It is found that the majority of respondents had started using mobile phones between 2015-2020, which could be mainly due to age factor. Likewise, for years of relationship with telecom service provider, 137 respondents were using the SIM for more than 9 years, 126 of them had used it for 6-9 years. Almost every user reported use of mobile phone for calling purpose, 62.62% used for SMS, 41.58 % for data pack and 10.64% for international calling. Further among them, many of the respondents first Sim card was NTC (63.86%) followed by Mero Mobile/ Ncell (38.61%). At present 80.2 % respondents reported using NTC followed by Mero mobile/Ncell (46.29%), SmartCell (2.97%) and UTL (0.99%). It shows the inclination of mobile users is more towards NTC and Mero/Ncell compared to others service provider. We further find that majority of respondents have been using prepaid rather than post-paid SIM Card. As per the study 92% are prepaid subscribers, 6% are post-paid and remaining 2% have been using both prepaid and post-paid.

Challenges to Telecom Sectors

The majority of respondents believed that there are issues pertaining to telecommunication sector in Nepal (See Table 7). Major challenges/barriers in telecommunication sectors include issues of security, lack of updated services, infrastructure development/network issues, crude customer centric ecosystem and an Impact of Internet of Thing (IOT). The challenges and hardships faced are clubbed into group from the perspective of source (such as service provider, customers, government and shareholders) and on the basis of frequency of those issues. In terms of the source of issues and challenges, 381 respondents listed Service Provider as the origin with 52 respondents listing Customers and 139 respondents listing Government. Infrastructure/Network issues was the most commonly faced issue.

Table 7: Challenges to Telecom Sectors

Variables	Category	Numbers	Percentage
Challenges on Telecom service	Yes	389	96.29
	No	15	3.71
Challenges/barriers	Security issues	66	16.34
	Updated services in Telecom	148	36.63
	Infrastructure Development / Network Issues	292	72.28
	Customer-centric Ecosystem	81	20.05
	Impact of Internet of Thing (IOT)	115	28.47
Responsible/challenges arise	Service Provider	381	56.70
	Customers	139	20.68
	Government	100	14.88
	Shareholders	52	7.74
Often problem arises	Frequently	198	49.01
	Occasionally	141	34.9
	Rarely	50	12.38

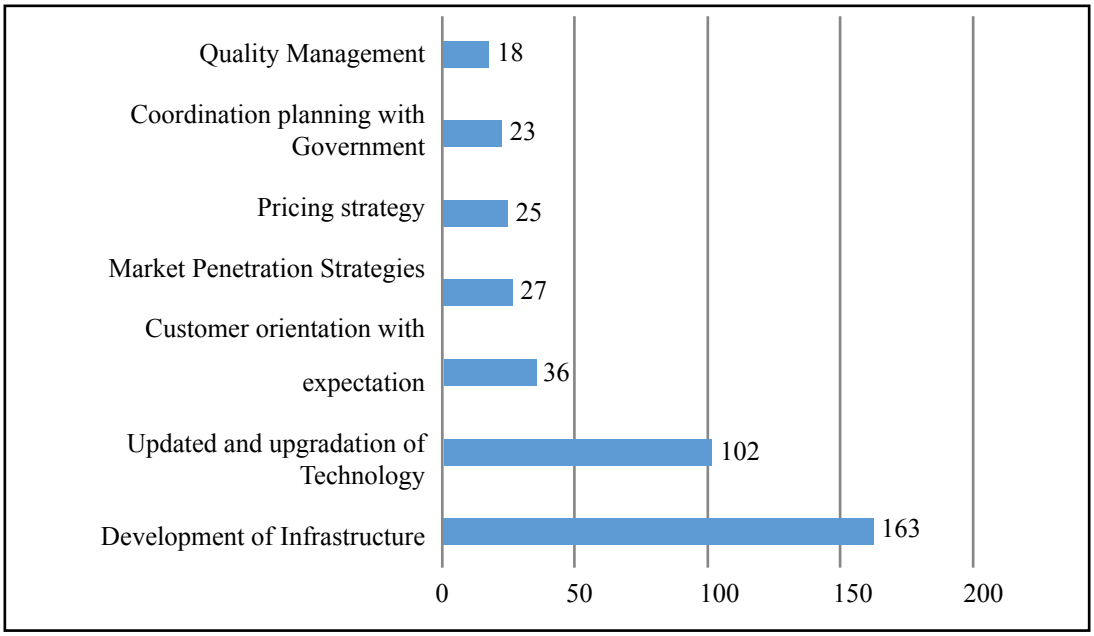
Source: Field study

Managerial Solution regarding Telecommunication sectors

The descriptive analysis of the goal for providing essential managerial strategies is presented here. We study how telecom sector can create priorities vital for proper development. It provides cues for effectiveness and improvement towards addressing the challenges existing in telecom sector, providing pathways to authorities for carrying out the managerial strategies. Open-ended questions were also posed to ascertain what should be done in the Kathmandu valley to improve the effectiveness telecom services.

Out of the 404 respondents, almost majority of the respondents opined that challenges are manageable. They were further questioned as to what could be done in this regard. The responses could be clubbed into categories such as development of infrastructure, pricing strategy, focus on market survey, infrastructure should be updated timely, focus on quality service and updating in line with to international standards, adoption of new technologies in telecom sector, seeking more customer feedback as well as accessibility of network. The outcomes are presented in Figure 2.

Figure 2: Strategy to Manage Challenges in Telecommunication Sector



Source: Field Survey

The results of the survey suggest the importance of the government and telecom service provider for planning is must. A larger proportion of the respondents claimed that, the majority of respondents agreed that development of Infrastructure is foremost thing to solve. It should be instructed on how to work and plan on it. Updating and upgrading of Technology, regarding customer orientation with meeting expectations, Market Penetration Strategies, Pricing planning strategy, work on coordinating long term planning with Government and Quality Management. Responsible for this solution are listed as service providers and end users. Among them 391 respondents believe that the main concerned and responsible for problem solution is made by service providers and only 3 respondents think that the problem solution is responsible by end users. Only 10 respondents argued with saying no. Because they believe that it becomes issues in telecom sector but concern group has not given priority for it yet. Delay in implementation problem still government and service providers are not yet implied any development framework on it.

Inferential Analysis

In this section, we use tools such as Explanatory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), measurement model, path analysis, hypothesis testing and mediation analysis. Inferential statistics are used to expand survey results to a larger population.

Descriptive Summary Statistic

There are a total of 404 data collected from bank customers. There are no missing observations. The data is presented using the mean, standard deviation, skewness, and kurtosis (Brown, 2008). According to the results of the descriptive study, the mean value is in the range of 3.8589 to 4.2698, indicating that the most of the respondent agree the provided statement. The standard deviation ranges from 0.61735 to 0.83411, showing that the majority of the standard deviation values are lower, implying that the majority of the replies are not significantly different from the mean data. The skewness lies between -0.516 to -1.662, which represent the left tail distribution. Similarly, the kurtosis lies in between 1.928 to 4.602. The data in this study has a negative skewness i.e. the left side of the distribution has a larger

tail ranging from -2 to +2. Kurtosis measurements are in the range of -5 to +5, suggesting that the data is normal and is often acceptable.

Exploratory Factor Analysis (EFA)

FA is a set of statistical approaches based on a correlation or covariance matrix that aims to reduce or simplify data (Koyuncu & Kılıç, 2019). Kaiser-Meyer-Olkin Measure of Sampling Adequacy for individual variance discovered that there is sufficient connectivity between the components. Exploratory factor analysis is a statistical technique used to simplify complex data sets by examining the pattern of correlations (or covariance) among observed variables (Kline, 1994). EFA is particularly useful in investigating complex concepts which are not easily measurable such as mental health and quality of life. EFA includes the concept of a latent factor that exerts influence on observed variables (Basto & Pereira, 2012). The aim is to concisely represent interrelationships to aid conceptualization of a set of latent constructs underlying a battery of measured variables. The information from the original measured variables is presented in a smaller number of derived factors (Gorsuch, 2014). The key objective is to extract the maximum common variance from the variables to arrange them under common factors to understand how much each variable contributes to each factor.

The KMO value in our study is 0.890, which meets the 0.70 minimum requirement. Similarly, the data is significant since the Bartlett's Test result is 0.000, which is less than 0.05, suggesting that there is no concern with data reliability and validity as well as it indicates that the data is significant (Emerson, 2017; Gaskin & Happell, 2014; Lee et al., 2021; Watkins, 2018).

Communalities and Common Method Bias

Cronbach's alpha is used to assess internal consistency. A higher value implies stronger internal consistency (Dahal, 2022). In this case, we discovered that Cronbach's alpha is larger than 0.803, indicating strong internal consistency among variables. Harman's single factor test evaluating the un-rotated factor solution to see how many factors are required to account for the majority of the variance in the data and should be less than 50 per cent (Urreta & Hu, 2019). When analyzing the results of an EFA study, Harman's single-factor test is used to see if the first extracted component explains more than 50% of the variation (Pillai & Sivathanu, 2020). Our data set has no difficulties with Common Method Bias because the variation explained by a single component is 39.628 %, which is less than 50%.

Confirmatory Factor Analysis (CFA)

CFA requisites that the model should have been properly identified and described. The confirmatory measurement model was used to test convergent and discriminant validity in this investigation. The fitness indicators CMN/DF, RMR, RMSEA, GFI, IFT, TLI, and CFI are used to assess if the model fit is acceptable or not. To assess assessment reliability and validity, study has used confirmatory factor analysis (CFA) (Pan et al., 2021). The confirmatory measurement model was used to test convergent and discriminant validity in this investigation. The fitness indicators CMN/DF, RMR, RMSEA, GFI, IFT, TLI, and CFI are used to assess if the model fit is acceptable or not. The model fit for this study is exceptional since all of the indicators meet the requirements with the result of CMIN/DF = 2.502 CFI (0.952>0.90) TLI (0.941>0.90), IFI (0 .952>0.90) RMSEA (0.061 <0.08). The result shows that all of the indicators in the survey meet the criteria for good fitting.

Measurement Model (Validity of Data)

The condition of convergence validity is fulfilled as the construct CR and AVE is greater than 0.7 and 0.5 respectively (Basnet et al., 2024). Likewise discriminant validity criteria is also satisfy as variable AVE is more than its MSV and square root of AVE is greater than correlation (Hair et al., 2020). Table 8 shows the latent construct correlation. CR> AVE are the requirements for convergent validity, whereas

AVE> MSV, AVE>ASV, and AVE> r are the requirements for discriminant validity (correlation). If the above conditions meet, and from the table 8 and table 9 it is confirm that there are no issues about validity in the model as all indicators accurately represent the construct to which they belong.

Table 8: Reliability and Validity

Construct	Indicator	Factor Loading	Cronbach's Alpha	CR	AVE	MSV
Service Commitment	SC_2	0.678	0.846	0.847	0.580	0.382
	SC_3	0.675				
	SC_4	0.732				
	SC_5	0.669				
Service Trust	ST_2	0.641	0.824	0.835	0.566	0.382
	ST_4	0.571				
	ST_6	0.764				
	ST_7	0.755				
Price Fairness	PF_2	0.649	0.862	0.862	0.610	0.349
	PF_3	0.691				
	PF_4	0.755				
	PF_6	0.709				
Customer Loyalty	CL_3	0.638	0.803	0.803	0.507	0.328
	CL_4	0.708				
	CL_5	0.646				
	CL_7	0.654				

Source: Field Study

Table 9: Latent Construct Correlation

	PF	SC	ST	CL
PF	**0.781**			
SC	0.591	**0.762**		
ST	0.509	0.618	**0.752**	
CL	0.573	0.426	0.483	**0.712**

Test of Hypothesis

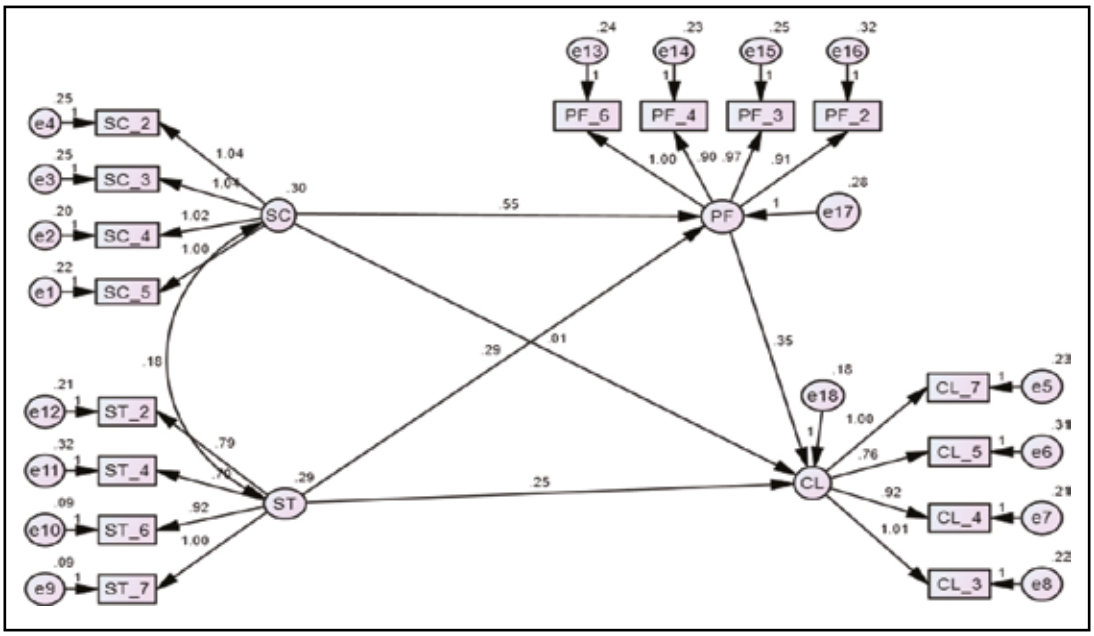
The hypothesis H2, H3, H4 and H5 shows the significant result as the p- value is greater than 0.05. The test result showing by table 10 and figure 3 revealed that related and behavioural experience in advertising impact the brand creditability and on consumer behaviour. Similarly, the finding also reveals that brand creditability has significant impact on consumer behaviour. Hypothesis H2 and H5 is not supported by the study.

Table 10: Hypothesis Testing

Hypothesis	Estimate	S.E.	C.R.	P	Hypothesis Result
H1: Service Commitment → Customer Loyalty	0.01	0.076	0.131	0.896	Insignificant
H2: Service Trust → Customer Loyalty	0.326	0.094	3.476	***	Significant
H3: Price Fairness → Customer Loyalty	0.394	0.067	5.887	***	Significant
H4: Service Commitment → Price Fairness	0.481	0.079	6.105	***	Significant
H5: Service Trust → Price Fairness	0.335	0.098	3.414	***	Significant

Source: Field Study

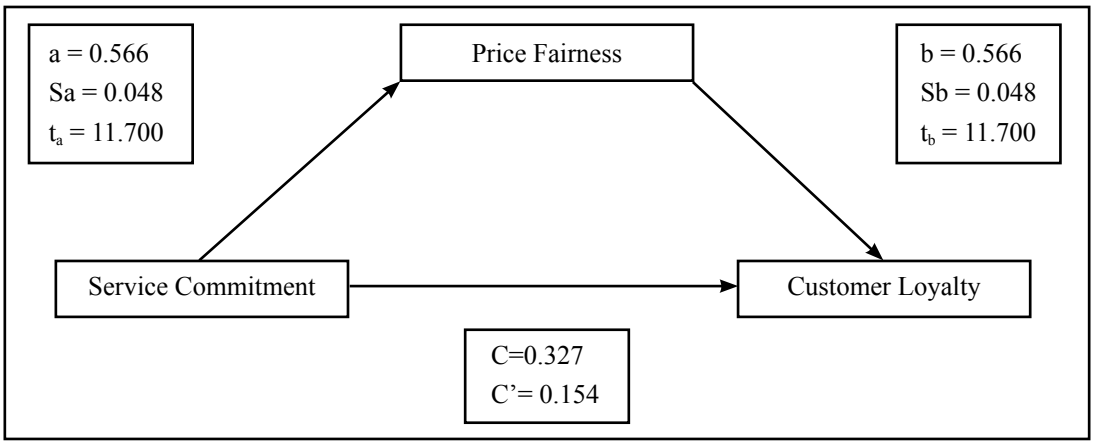
Figure 3: Structural Model



Mediation Analysis

In mediation analysis, researchers assume that the independent variable (X) affects the mediator (M), which in turn, affects the dependent variable (Y) (Bader & Jones, 2021). In this analysis there are three variables i.e. service commitment; as the independent variable, customer loyalty as the dependent variable and price fairness as mediating variable. Here, study has examined the impact of service commitment on customer loyalty through the mediation of price fairness. The study examines price fairness whether plays a mediating role between service commitment and customer loyalty or not. The study uses the Sobel test to validate the mediation analysis, and determine whether there is full mediation, partial mediation, or no mediation based on the results (Figure 4).

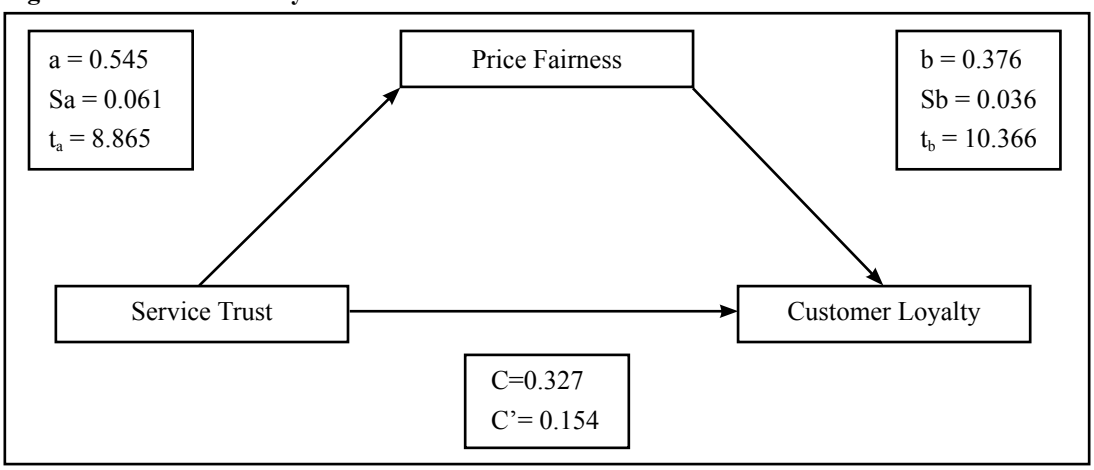
Figure 4: Mediation Analysis (SC-PF-CL)



As per the analysis of mediation, the study examines price fairness whether plays a mediating role between Service Commitment and Customer Loyalty or not. As the result of Sobel test the mediation analysis shows that service commitment, price fairness and customer loyalty has shown partial mediation relationship where p-value is 0.000 which is less than 0.05 it shows significant relationship between the mediator and the dependent variable and also some direct relationship between the independent (SC) and dependent variables (CL).

The study examines whether price fairness plays a mediating role between Service Commitment and Customer Loyalty or not. The relationship between Service trust and Customer loyalty is known to asset direct effect on the other hand, service trust and price fairness and relationship between price fairness and customer loyalty is known to be indirect. The study uses the Sobel test to do the mediation analysis shows that service trust, price fairness and customer loyalty has partial mediation relationship based on the results from the SOBEL test where p-value is 0.000 which is less than 0.01. It shows significant relationship between the mediator and the dependent variable and also some direct relationship between the independent (ST) and dependent variables (CL) (Figure 5).

Figure 5: Mediation Analysis of ST-PF-CL



For mediation analysis (Table 11), the hypothesis H6 and H7 are not rejected as p-value is less than 0.01 which shows that price fairness plays a mediating role between Service commitment, trust and Customer Loyalty. The study examines whether the mediating variables significantly affect the dependent or independent variable or not.

Table 11: Mediation Analysis

			Mediating effect			p-value
			b	Sb	Sobel Test	
H6: Service Commitment → Price Fairness → Customer Loyalty	a	0.545	0.376	0.036	10.366	0.000 (Significant)
	Sa	0.061				
	t_a	8.865				
H7: Service Trust → Price Fairness → Customer Loyalty	a	0.566	0.376	0.036	10.366	0.000 (Significant)
	Sa	0.048				
	t_a	11.700				

From the given result of Sobel Test, the Sobel test is a method of testing the significance of a mediation effect(Cheung & Wong, 2011). As per the result shows that P-value is less than 0.01 which implies meditating Price Fairness (PF) play mediating role between Service Commitment (SC) and Customer Loyalty (CL). This indicates that there is indirect relationship. Similarly, from the given result of Sobel Test, we can see that P-value is less than 0.01 which implies that Price Fairness (PF) play mediating role between Service Trust and Customer Loyalty. This indicates that there is indirect relationship.

Discussion

Telecommunication sector has gained popularity due to its continuous development and has been an area of interaction for decision makers, academics, and researchers (Chen et al., 2021). They have analysed the telecommunications industry as a platform, linking the country's information-intensive ecosystem with its social and economic growth. Moreover, the initiation of these policies and measurement of the risks associated is not an easy process and needs much deeper study. The result of present work found that some of the potential development in mobile telecom sectors in Nepal and put into an SERVQUAL model, to analyse the interaction between users and service quality of telecom service. It needs to be addressed for the improvement in telecom services.

The results of this study indicate that the performance of telecom companies is influenced by government regulations as it affects systemic risk. In addition, the research findings would be useful for regulators in framing new policies by taking into account the interests of both investors and customers, as the decisions of regulators can probably exert systemic risk on the telecommunication firms. The telecom managers may utilise the findings forecast the impact of such risks as and when they arise. To establish and test the correlation between the variables, the reliability test and multiple linear correlation were employed. Table 10 shows that we failed to reject almost all hypotheses with a $p < 0.01$. For Hypothesis 2, result show that there is a positive relationship between service trust and customer loyalty. In hypothesis 3, result significantly indicates that there is positive impact on building customer loyalty from the end user's perspectives. According to Hypothesis 4, result show that there is positive relationship between service commitment and price fairness. Further, it is demonstrated that service trust has positive impact on price fairness. We find that price fairness mediates the relationship between service commitments with customer loyalty for Telecom Servicer users in Nepal. Lastly Price Fairness mediates the relationship of service trust with customer loyalty as well.

Conclusion and Recommendations

We investigated whether price exerts any effect on Telecom service across the users in Kathmandu valley. Responses were collected from end users to generalize the relationship between service

commitments, trust and price fairness on customer loyalty. We found that the main reason stated for using telecom service pertained to calling. The relationship between the independent variable i.e. Service Commitment, Service Trust, mediating variable i.e. Price Fairness and dependent variable i.e. Customer loyalty was also established. The outcome is consistent with prior research that show that how commitment, trust and price fairness are positively associated with customer loyalty. The result is based on SEM and SERVQUAL theory. This study was undertaken to examine the underlying factors that define a university's students' choice of mobile service provider. The customers in general were not happy with the quality of services provided by the telecom service providers in Nepal.

The results from this study will be useful to the telecom operators for increasing the quality of service and improvement of their market accessibility and company outreach terms of subscriber base. The observations from the study would prove instrument for planning and devising sales, marketing and customer retention strategies. Telecom operators may plan to bundle their offering according to this cohort in terms of lucrative voice plans and quality data services with enhanced customer care experience. The limitation of this study was that the sample size was limited to 404 and majority of the respondents belonged to the Kathmandu Valley. The responses were skewed as the respondents were undergraduate students of Tribhuwan University, Pokhara University, Kathmandu University and Purbanchal University. Yet, this empirical research work provides useful insights about understanding the relationship between service commitments, trust price fairness on customer loyalty in Kathmandu Valley. This study has highlighted concerns about the role of knowledge creation between service commitments, trust price fairness on customer loyalty.

Our research provides a comprehensively integrated framework for understanding the dynamic relationship among service commitment, service trust, price fairness and customers' loyalty. The findings of this study will be beneficial to telecom operators in improving service quality, market accessibility, and firm status in terms of subscriber base and market capitalization. The study's findings will aid in the planning and development of sales, marketing, and customer retention efforts in telecommunication sectors. Telecom providers may intend to bundle their offerings in terms of profitable call plans and excellent data services with increased customer care experience based on this cohort.

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