ENHANCING CUSTOMER EXPERIENCE IN THE INDIAN TELECOM SECTOR

By

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ABSTRACT

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This research was conducted to derive the key factors responsible for influencing the enhanced customer experience in the Indian telecom sector and practical solutions that will help elevate the customer experience in the Indian telecom sector. This research validated the Indian mobile customers' preferences for factors that can improve their key telecom operator and also validated, through the same survey, the three practical solutions that will aid in elevating the customer experience, namely proactive customer care, local language customization, and special day delights. The study also suggests key improvements that Indian telecom operators should make in order to provide a comprehensive customer experience.

In order to achieve this, the researcher conducted a survey of 1062 Indian mobile customers. The results of the analysis and verification of this research are summarized as follows. Based on the research's findings, the Indian telecom sector must primarily focus on price, which is the key differentiator that impacts the customer experience. The outcome of this research also guides the telecom operators to cap price plan hikes and advises on the frequency of such hikes, which will trigger Indian mobile consumers to switch telecom operators.

Based on the research's findings, since none of the Indian telecom operators are already offering the three proposed solutions, it is highly recommended for them to start implementing one or all of the solutions if profitability and growth projections allow for the same. The three proposed solutions are proactive customer care, local language customization, and special-day delights. This research also acknowledges the challenges the Indian telecom operators may have in financing the three proposed solutions. To alleviate this concern, the research also validated that mobile consumers were willing to pay less than 5% of their monthly bill for such enhanced customer experiences.

The research's key conclusions and suggestions will help create a practical framework for key enhancements that the Indian telecom sector must undertake to have an all-encompassing customer experience.

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CHAPTER I:

INTRODUCTION

1.1 Introduction

Creating a strong customer experience is now a leading management objective (Lemon and Verhoef, 2016). A study by (Accenture, 2015) in cooperation with Forrester Research suggested that improving the customer experience received the highest ranking when executives were asked about their top priorities for the next 12 months.

Customer experience is the internal and subjective response customers have to any direct or indirect contact with a company. (Meyer and Schwager, 2007). In the same article, the authors Meyer and Schwager (2007) further state that direct contact generally occurs in the course of purchase, use, and service and is usually initiated by the customer, and indirect contact most often involves unplanned encounters with representations of a company's products, services, or brands and takes the form of word-of-mouth recommendations or criticisms, advertising, news reports, reviews, and so forth.

In the telecom industry, this shift from service to experience puts the customer in the driving seat, whose intentions and needs trigger service delivery, and the major focus for all Indian cellular service providers is to look at the various customer touch points in their buying cycle and post-sales services. (Domb et al., 2015).

This research helps in highlighting and validating suggestions that can improve the customer experience based on the (Domb et al., 2015) Amdocs Customer Experience Index (ACEI). The research emphasizes the determinants of the customer experience and provides solutions to one or more of them.

The solutions and evidence produced through this research will help design and implement the same at various levels of any Indian cellular service provider's business in

order to ensure a consistent telecom customer experience. The research explores each solution and identifies where organizations need to make customer experience their core focus and shift from traditional services to building a satisfied and loyal customer base. The findings of this research will inform cellular services on how to add value to the services provided in the telecom sector and pave a path to reach out to the customer base directly by considering the customer as the key stakeholder in the formulation of policies and services.

Practically, this research will help understand how to make use of evidence and integrate the solutions proposed with the service management tools to notify the cellular service providers of any deviation and take pro-active action on that deviation.

Theoretically, the gap between providing services and satisfying the customer with a great experience will be effectively bridged using the facts and discussions from this research. With the help of this solution, the customer management graph should consistently improve, and in a sustainable fashion.

The current research will establish a meaningful understanding of the emergence, expansion, and management of customer experience in the Indian telecom sector.

1.2 Research Problem

In this era of heightened competition and a volatile global economy, delivering services originating from diverse sources without satisfying thorough customer experience practices may increase customer dissatisfaction and the churn rate. (Laghari et al., 2010). According to the authors, Laghari et al. (2010), in order to ensure a rich customer experience, the service delivery mechanism should shift toward a customer experience-centric approach. This shift from service to experience puts the customer in the driving seat, whose intentions and needs trigger service delivery. In the telecom industry, this shift from service to experience puts the customer in the driver's seat, whose intentions and needs trigger service delivery.

There have been various attempts to define and conceptualize the customer experience, as well as to understand its interactions with a range of variables. Nevertheless, telecom customer experience management has been understood as a vaguely defined concept. It has resulted in many researchers focusing on different dimensions of the customer experience, but there has never been a consistent framework or set of suggestions for managing the customer experience As a consequence, various branches of customer experience management have surfaced. Theoretical frameworks are still in the process of being developed and evaluated. The majority of the studies are from industry, with only a few scientific studies.

Today, various models of customer experience in the telecom space exist. However, very few suggestions for enhancing the customer experience exist. The proposed research aims to provide practical suggestions to enhance the customer experience in the Indian telecom sector. Especially in the telecom industry, customer experience is a sustainable differentiator as it puts the customer in the middle of the process of product or service development.

This lack of knowledge led this research to explore questions that are seeking an answer to better the customer experience in the Indian telecom sector.

1.3 Purpose of Research

This qualitative research enabled an in-depth investigation in order to identify the key factors responsible for enhanced customer experience in the Indian telecom sector and also validate the solutions proposed to improve the customer experience. The research used data collected from the target population of Indian cellular users with questionnaires as the primary method of data collection.

1.4 Significance of the Research

The findings of this research will be beneficial and valuable to consumers as well as to Indian cellular service providers. The gap between providing services and satisfying the customer with a great experience will be effectively bridged using the facts and discussions from this research. With the help of the solutions suggested, the customer management graph should consistently improve in a sustainable fashion.

1.5 Research Objectives and Questions

The proposed research has a long-term goal of expanding knowledge of customer experience techniques and eventually mobilizing resources by India's cellular service providers to be used in building a consistent framework for involving customers and managing their experiences.

This research has the following sub-objectives:

1. To identify the key determinants and factors that will help in establishing a unified framework for engaging customers and controlling their experiences.
2. To provide practical solutions that can be applied to existing frameworks, which will help elevate the customer experience in the Indian telecom sector.
3. To determine the key enhancements, the Indian telecom sector must have an all-encompassing customer experience.

The corresponding research questions are:

- What are the key **determinants or factors responsible for influencing** enhanced customer experience in the Indian telecom sector**?**
- What are the **practical solutions** that can be applied to existing frameworks and will help elevate the customer experience in the Indian telecom sector?
- What are the **key enhancements needed to implement the solution** that the Indian telecom sector must do to have an all-encompassing customer experience?

CHAPTER II:
REVIEW OF LITERATURE

2.1 Theoretical Framework

2.1.1 Literature Review Objectives

This literature review will discuss customer experience along with telecom specifics. The purpose of this literature review is to explore some of the different variables that influence the customer experience in the telecom sector.

The following literature review is designed to serve a number of key purposes. To begin with, I will research existing literature in the areas of customer experience and telecom in order to put the topic into context. Secondly, I will identify the research questions that are appropriate for the specific goals of the current research by analyzing previous research in the area.

The literature review begins with an overview of customer experience definitions and characteristics in order to aid our understanding of how to incorporate the concept of customer experience into the evaluation of the telecom industry. Furthermore, I will look at the key customer experience metrics that will help measure the health of your customer experience.

The second section focuses on the Indian telecom industry's growth and trends, with an emphasis on the growth along with the trend of total telephones and teledensity in the country.

In the third section, existing determinants of customer experience in the telecom industry are brought forward. I will discuss the concept of how the customer experience can be enhanced for the Indian telecom sector with the various frameworks used in the telecom business for measuring and defining the customer experience.

At the end of this section, literature review looks at the three practical solutions proposed and their corresponding key enhancements needed to be implemented by Indian telecom operators, viz. "pro-active customer care," "local language customization," and "special day delights."

An overview of prior investigations is carried out in the final section of the literature review. The goal of this section of the overview is to look at the various components of customer experience that have been recognized in earlier literature in order to highlight and validate suggestions that can improve the customer experience.

2.1.2   Customer Experience definitions and characteristics

Customer experience has emerged as an important marketing concept aimed at creating a unique, pleasurable, and memorable experience. It is a relatively new concept, in both theory and practice, which has gained larger attention in the recent past, particularly in the last three decades. (Jain et al., 2017).

Over the last three decades, customer experience (CE) has developed from a burgeoning concept to a widely recognized phenomenon in terms of both research and practice. To account for the complexity of consumption decisions, the CE literature encompasses both the rational information processing approach to consumer decision-making and the experiential approach, which includes emotions, feelings, and sub-consciousness. (Kranzbühler et al., 2018)

The author De Keyser et al. (2015) defines customer experience as: "Customer experience is comprised of the cognitive, emotional, physical, sensorial, and social elements that mark the customer's direct or indirect with a (set of market) actor(s)".

As per the paper published by Meyer and Schwager (2007), the customer experience encompasses every aspect of a company's offering—the quality of customer care, of course, but also advertising, packaging, product and service features, ease of use, and reliability. Further, the authors Meyer and Schwager (2007), add that people's expectations are set in part by their previous experiences with a company's offerings. Customers instinctively compare each new experience, positive or otherwise, with their previous ones and judge them accordingly. Expectations can also be shaped by market conditions, the competition, and the customer's personal situation. (Meyer and Schwager, 2007).

According to Lukina (2019),customer experience is a unique phenomenon referring to the customers' feelings. The experience stays in one's mind for a long time. Moreover, this gained experience will more likely be spread among the people surrounding the individual.

As per Data Dimension (2017), the customer experience is the impression you leave with your customers, which results in how they think of you as a brand or service and ultimately creates brand loyalty. In fact, companies that worked on improving the customer experience saw a 92% increase in customer loyalty, an 84% uplift in revenue, and a 79% cost savings. (Data Dimension, 2017).

The author Moore (2019), lists the below key customer experience metrics that will help measure the health of your customer experience:

- **Customer satisfaction (CSAT).** Most organizations start here. CSATs are the most traditional metrics that can involve either the explicit capture of survey questions asking about satisfaction or implicit metrics such as product review ratings, timeliness of delivery statistics, or mystery shopping scores.

- **Customer loyalty/retention/churn.** These metrics can be retrospectives, such as average tenure, or more predictive of the likelihood of a customer remaining a customer. Examples include purchase frequency, use of multiple channels, loyalty program participation, average order size, repeat orders, and return rates.

- **Advocacy/reputation/brand.** These metrics determine the level at which customers would be willing to recommend or endorse the product or organization. Price sensitivity, sentiment scores on social media, trust ratings, and event participation are all good examples.

- **Quality/operations.** This is the most underestimated set of metrics. When a product or service does not meet requirements, the customer experience is poor, no matter what actions are taken to remediate the problem.

- **Employee engagement.** This fifth set of metrics is included in perhaps only 10% of CX initiatives across organizations. A Gartner survey identified employee engagement as a major concern in delivering CX improvements, with 86% of organizations ranking it as having an equal or greater impact than other CX challenges.

The author Kingstone (2012), "Many customer experience initiatives exist, but there is no silver bullet." He further highlights the customer experience initiatives, their goals, and gaps as below:

- **Net Promoter Score (NPS) Measurement:**
  - <u>Goal:</u>
  Based on a 1-10 scale, NPS divides a company's customers into three categories. "Promoters" (those who rank the company 9 or 10) are loyal enthusiasts who keep buying from a company and urge their friends to do the same. "Passives" (7 or 8) are satisfied but unenthusiastic customers who can be easily wooed by the competition. And "detractors" (1-6) are unhappy customers trapped in a bad relationship.

  - <u>Gap:</u>
  Does not necessarily translate to loyalty. It is important to understand that recommendation intention alone will not suffice as a single predictor of customers' future loyalty behaviours. Use of multiple strategies instead of a

single predictor model performs significantly better in predicting customer recommendations and retention.

- **Big Data:**
  - <u>Goal:</u>

  As operators move from siloed, operationally oriented systems to more integrated, analytical, and socially aware ones, they face challenges related to customer data. "Big data" is characterized by increases in data volume, velocity, variety, and variability. To improve customer engagement, companies will invest in big data solutions.

  - <u>Gap:</u>

  Initiatives involving big data are extremely valuable yet complex. The increase in data volumes poses new architectural and informational challenges. The technical challenges of managing, accessing, and analyzing real-time data streams mean that IT teams are often unable to respond quickly enough to new market dynamics and improve customer experiences.

- **Service Quality Management (SQM)**
  - <u>Goal:</u>

  Designed to passively collect data, SQM tools can provide information on network availability so network managers can understand and measure the quality of service. The data these probes collect provides information that is vital to operational performance. This information lets network managers make decisions during a network crisis or failure and even take action to prevent a problem. This data also provides a manager with key information when it becomes necessary to upgrade or enhance a network.

o <u>Gap:</u>

While there are network monitoring tools and technologies used in service and network operation centers, many of these solutions are managed in their own silos. The operations staff is overloaded by the amount of data from networks and equipment, and they have little ability to understand its impact on the end-to-end individual subscriber experience. These initiatives have limited ability to ferret out and understand the root cause or dynamically respond to the problem.

- **Customer Relationship Management (CRM)**
    o <u>Goal:</u>

    Customer management initiatives are absolutely necessary. They aim to give the operator an operational 360-degree view of the customer for sales, service, and marketing.

    o <u>Gap:</u>

    CRM initiatives are usually very customer-care centric, offering a function-specific, inside-out view. This attempt to transform tends to rely on internal measures of quality, such as average hold time and call abandonment rates. In reality, however, such measures have nothing to do with the overall experience; they simply measure service provider transaction response efficiency.

- **Policy**
    o <u>Goal:</u>

    Policy control adds business logic for how service providers can manage their services, resources, and customers. Policy is a valuable initiative within operators for addressing issues such as fair usage, bandwidth caps, bill shock, and parental controls.

    o <u>Gap:</u>

Because policy exists not only in the network but also in the B/OSS, it falls between two worlds that are difficult to bridge.

The author Kingstone (2012), observes that in the telecom space, while industry bodies are in the process of developing standards for customer experience management, quality of experience (QoE), and key quality indicators (KQIs), vendors are continuing to create their own initiatives to provide a way to measure end-to-end PSPU quality. What is important is to construct a way to find the root cause of a problem and its related impact on end-users' QoE.

The author Kingstone (2012), further notes that end-to-end CEM must not only build upon these practices but also extend the insight to become much more actionable. Communication service providers must be able to learn from customer expectations and track, monitor, and respond to any change. The challenge is to apply this knowledge across the company to enhance the user experience while still retaining profitability for the operator.

- **Requirements for Transforming the Experience**

The author Kingstone (2012), suggests that telecom operators need to transform from network-centric to user-centric management practices. A user-centric approach focuses not only on availability but also on key factors such as accessibility, integrity, retainability, and ultimately a customer's emotional experience. Tying the emotional experience of the user with QoS is a fundamental piece of CEM. The critical factor for a successful customer experience is the extent to which the customer's needs are satisfied. Indicators such as

NPS, likelihood to churn, and other loyalty indicators can be a great start. However, it is critically important to relate these results to key network events.

The author Kingstone (2012) emphasizes that while NPS underscores emotional factors that impact customer satisfaction and loyalty, CSPs should incorporate that strategy into a new and innovative indicator that correlates the overall acceptability and perception of the product or service by the end-user. They must generate a deeper understanding of subscriber needs through the use of end-to-end insight across a combined rich data set that enables the operator to respond to changing subscriber usage patterns and preferences. This new CEM initiative must incorporate customer experience index (CEI) modelling with an aggregated PSPU-oriented analysis to ensure quality management aligns with the operator's business goals.

The author Kingstone (2012), further suggests that customer experience is a direct result of users' observations, perceptions, thoughts, and feelings as they interact with the product, service, or company throughout an interval of time. Therefore, a complete CEM system must not only capitalize on customer expectations but also act on any possible changes in behavior. It is important not only to continually measure customers' perceptions of network improvements but also to ensure customers know what the operator is doing to achieve those results. By gathering, enriching, and using a complete subscriber profile correlated with network information for both real-time service delivery and operational business insight, CSPs can achieve their end goal of not only improving customer experience but also engaging in proactive communication regarding network quality improvements.

2.1.3 Indian telecom industry Growth and Trends

As per Deloitte (2017), India has the fastest-growing (9.2% in 2015-16) service sector in the world, which contributes about 66% to the Indian GDP. Attracting the highest FDI inflows, the services sector is on a growth trajectory driven by the digital efforts of the government and a highly skilled and low-cost workforce. Moreover, the telecom sector in India is leading this growth trajectory.

In today's world, telecommunication has a significant social, traditional, and economic impact. The same holds for the Indian economy. The telecommunications network in India forms the second-largest network based on fixed and mobile phones. (Jatav, 2016). As per the Annual Report of the Telecom Regulatory Authority of India (2022), with a subscriber base of 1.19 billion, India is currently the world's second-largest country in terms of telephone connections. India's mobile subscriptions now constitute more than 98% of all telephone subscriptions.

As explained by Baruah and Baruah (2014), the telecommunications sector in India can be primarily subdivided into two broad segments. They are Fixed Service Providers (FSPs) and Cellular Service Providers (CSPs). The Indian telecom sector comprises some essential telecom services like telephone, radio, television, internet, etc. The Indian telecom sector is increasingly emphasizing cutting-edge technologies such as GSM (Global System for Mobile Communication) and CDMA (Code Division Multiple Access) in addition to fixed lines, PMRTS (Public Mobile Radio Trunking Services), and WLL (Wireless Local Loop).

The authors Baruah and Baruah (2014), further emphasize that the infrastructural development of the country plays an important role in the development of the telecom sector in India. The government of India is providing certain benefits, especially to infrastructure companies, and is encouraging private players to participate through investment in this sector. As a result, very good growth in this sector can be seen in the country.

The same is apparent in the Department of Telecommunications of India's report on Telecom Statistics India (2019) that the Trend of total telephones and Tele-density in the country from 2001 to 2019 is as under:

Table 1 Trend of total telephones and Tele-density in the country (2001 to 2019) as featured in Telecom Statistics India (2019) (Ministry of Communication | Government of India, 2019)

At the end of March	Total Telephones (in million)	Tele-density (%)
2001	36.28	3.58
2002	44.97	4.29
2003	54.61	5.11
2004	76.54	7.02
2005	98.37	8.95
2006	142.09	12.74
2007	205.87	18.22
2008	300.49	26.22
2009	429.72	36.98
2010	621.28	52.73
2011	846.33	70.89
2012	951.35	78.66

2013	898.02	73.32
2014	933.02	75.23
2015	996.13	79.36
2016	1059.33	83.40
2017	1194.99	93.01
2018	1211.80	93.27
2019	1183.41	90.10

Tele-density is an important indicator of telecom penetration in the country, which represents the number of telephones per hundred people. There is a very exponential growth in teledensity in India due to the evolution of high-tech wireless technologies. The same is reflected in the Telecom Statistics India (2019) which shows the Tele-density of No. of Subscribers Per 100 Inhabitants from 2006 to 2019.

Table 2 Tele-density (No. of Subscribers Per 100 Inhabitants) (2006-2019) as featured in Telecom Statistics India (2019) (Ministry of Communication | Government of India, 2019)

At the end of March	Total	Wireline	Wireless	Rural	Urban
2006	12.74	3.61	9.13	2.34	38.28
2007	18.22	3.61	14.61	5.89	48.10
2008	26.22	3.44	22.78	9.46	66.39
2009	36.98	3.27	33.71	15.11	88.84
2010	52.74	3.14	49.60	24.31	119.45
2011	70.89	2.91	67.98	33.83	156.93
2012	78.66	2.66	76.00	39.26	169.17
2013	73.32	2.47	70.85	41.05	146.64
2014	75.23	2.30	72.94	44.01	145.46

2015	79.36	2.12	77.24	48.04	149.04
2016	83.40	1.99	81.41	51.26	154.18
2017	93.01	1.90	91.11	56.98	171.52
2018	93.27	1.76	91.51	59.25	166.64
2019	90.10	1.65	88.45	57.50	159.66

As per the Telecom Regulatory Authority of India (2022), the number of Indian active wireless subscribers in December 2021 was 1000.63 million. In the month of December 2021, 8.54 million subscribers submitted their requests for Mobile Number Portability (MNP). With this, the cumulative MNP requests increased from 652.88 million at the end of November 2021 to 661.42 million at the end of December 2021 since the implementation of MNP. This means that the churn rate is increasing across Indian telecom providers.

2.1.4 Average Revenue Per User – ARPU

As per the Telecom Regulatory Authority of India (2022), the number of Indian active wireless subscribers in December 2021 was 1000.63 million. In the month of December 2021, 8.54 million subscribers submitted their requests for Mobile Number Portability (MNP). With this, the cumulative MNP requests increased from 652.88 million at the end of November 2021 to 661.42 million at the end of December 2021 since the implementation of MNP. This means that the churn rate is increasing across Indian telecom providers.

ARPU or Average Revenue Per User is the primary metric for measuring a telecom operator's performance. The authors (Krishnan and Kombaiya, 2020) define ARPU [Average Revenue Per User] as "A measure of the revenue per unit or user. It helps to identify the revenue generators based on the products. ARPU is a key performance indicator for service providers and used as an important benchmark strategy by investors and analysts."

The authors (Krishnan and Kombaiya, 2020) further state that ARPU is calculated either monthly, quarterly, or annually. But it can be calculated for any interval of time. Average subscribers can change constantly. High ARPU will generate high revenue for the service providers. Low ARPU will generate low revenue for the company, and likewise, a high churn rate would cause low average revenue per user.

In its simplest form, ARPU is a simple method of calculating the average revenue generated by an individual customer in a specific market, product or service category, customer segment, etc. ARPU is a commonly used performance measure in mobile telecommunications marketing. (McCloughan and Lyons, 2006).

The authors (McCloughan and Lyons, 2006) further state that average revenue per user (ARPU) is commonly used by regulators and industry observers to compare the performance of mobile telephony markets. Under the new EU electronic communications regulatory framework, some national regulatory authorities (NRAs) have linked higher ARPU with "significant market power." The authors (McCloughan and Lyons, 2006) continue to examine the determinants of ARPU as service quality, market environment, regulation, and quantity of service.

In the same context, higher ARPU generally comes from an increase either in the price or the number of minutes used in mobile telecommunication. (Lempinen, 2013)

2.1.5   Indian telecom industry and ARPU

The telecommunications sector in India was liberalized in the early 1990s, paving the way for a significant influx of private as well as foreign direct investment in the sector. (Roy and Ganguli, 2008).

In their study on "Statistical Modeling Approach to Estimation of Average Revenue per User in Telecom Service," the authors (Deshpande and Narahari, 2014) note that initially, when mobile entered the market, one call was costing Rs 16 per minute. ARPU was around 500 rupees, but very few people had mobile connections; most people who used mobile were business people who could afford the high cost of the mobile device as well as call charges. Later, as technology advanced, hardware costs continued to fall year after year, and efficient network infrastructure became more affordable to operators, allowing the combination of these two mobile services to quickly penetrate the developing world's market.

The authors (Deshpande and Narahari, 2014) investigate the ARPU decrease further, discovering that while subscriber base increased nearly 18 times in 8 years, from 2005 to 2013, overall ARPU decreased by 71%. One important point that should be noted is that although ARPU has been decreasing, operators are still making profits.

A stark point to note is that while the ARPU in India was $5.95 in 2009, compared with $50 in the U.S., the Indian enterprise was one of the world's most profitable wireless carriers last year, with a 27% return on capital employed. (Prahalad and Mashelkar, 2010)

The authors (Roy and Ganguli, 2008) continue to observe that the Indian mobile phone service providers are now operating in a highly competitive environment with tight margins and fleeting customer loyalty. Revenue leakage, customer churn, and ineffective customer service have put pressure on the profitability of the service providers. According to the authors(Roy and Ganguli, 2008) as mobile phone operators have had to incur additional expenses in order to retain existing customers and acquire new ones, their average revenue per user (ARPU) has declined, resulting in a deterioration of their financial performance.

ARPU becomes reasonably stable once penetration reaches, typically, 50–70%. This stability continues as penetration rises, until it gets above 100%. The Indian ARPU pattern has never shown any stability, right from the start of mobile service in the country. He attributes this to the lower GDP per capita in the region—there will be more people who cannot afford mobile services, so saturation effects would be expected at lower levels of penetration. (Garner, 2006)

Intensive competitive pressure and fierce price competition have both contributed to the decline of ARPU in the past few years in the Indian telecom space. (Deshpande and Narahari, 2014)

2.1.6 Determinants of Customer Experience for in Indian telecom industry

Telecommunications operators' traditional sources of income, voice and SMS, are shrinking due to customers using over-the-top (OTT) applications such as WhatsApp or Viber. In this challenging environment, it is critical for telcos to maintain or grow their market share by providing users with as good an experience as possible on their network. (Diaz-Aviles et al., 2015).

I now analyze the various frameworks for customer experience carried out by various authors based on different dimensions, which are described below.

2.1.6.1 Customer Experience Reference Architecture by (Hensle, 2014)

The author Hensle, (2014), emphasizes that customers want a consistent, connected, personalized, and efficient experience throughout all phases of the customer lifecycle, delivered seamlessly across all touch points. Exceptional customer experiences drive revenue and create loyalty, advocacy, and repeat business. Because of the prevalence of social media today, customer satisfaction may influence not only repeat business from that person, but also new or repeat business from their social media circle. Therefore, the customer experience is more important than ever.

A great customer experience is the sum of all interactions and experiences throughout the customer lifecycle. Achieving a great customer experience requires a complete, robust customer experience solution that delivers consistent information and functionality across all points of interaction throughout the entire customer lifecycle. (Hensle, 2014)

In today's connected world, the customer experience spans multiple different touch points throughout the customer lifecycle. Companies must approach the customer experience holistically, from both a business and an IT standpoint. This requires that the business and IT work collaboratively to acquire, build, and integrate the systems needed to support a truly cross-channel customer experience solution. (Hensle, 2014)

According to Hensle, (2014), the customer experience is comprised of three primary business functions: commerce, marketing and loyalty, and support and service. Each of these business functions is further detailed below.

Commerce

As per the author Hensle, (2014), commerce focuses on selling a product or service to a customer. At a high level, this includes:

- Search or browse: The customer must be able to readily find the products of interest either by searching the product catalogue or by browsing the catalogue. A great customer experience requires guided search and navigation to help customers rapidly find the right product(s) of interest.

- Offer or recommend: Providing offers and recommendations greatly improves cross-selling and up-selling. Offers and recommendations must be real-time, personalized, and relevant to provide a compelling shopping experience. Offers and recommendations should also incorporate business insight to specifically target customers based on their past behaviour or purchases from other customers with similar interests.

- Order Management: Once the customer has decided on particular products, the ordering process must be efficient and accurate, even for complex products that require order orchestration.

- Business insight: To consistently improve the customer experience, information needs to be collected from all interactions across all points of interaction and made readily available for both historical and near real-time analysis.

Marketing & Loyalty

As per the author Hensle, (2014), marketing and loyalty drive demand for the company's products and services and reward customers for continued business. At a high level, this includes:

- Marketing Automation: Rapidly launch targeted marketing campaigns across all channels, align marketing and sales to produce higher-quality leads and increase closure rates, and measure the campaign performance and return on investment.
- Community management: building a community of customers who provide feedback, recommend products to others, assist new users, etc. The community management team must also cover social media outside the direct control of the company.
- Loyalty Management: Integrated loyalty management to encourage and reward customers for their repeat business.
- Channel Optimization: Using the strengths of one channel to overcome the weaknesses of another channel can significantly improve the customer experience. Additionally, promoting less expensive channels (e.g., the Web) where appropriate can reduce costs and improve the bottom line.

Support & Service

As per the author Hensle, (2014), Support & Service provides help to customers throughout the customer lifecycle, including product information, troubleshooting, warranty issues, configuration guidance, etc. At a high level, this includes:

- Self-Service: Providing comprehensive self-service is essential for a great customer experience, especially for the do-it-yourself type of customer. Comprehensive self-service also reduces costs since this is the least expensive form of customer support.
- Agent Assist: For some problems and some types of customers, self-service will just not provide the needed help. In these cases, a real, live agent is the only means to provide acceptable service. Agent assistance must be available via multiple channels, including phone, chat, and email.
- Account Management: To provide acceptable levels of customer support, full-featured account management is required. This functionality needs to be available both via self-service and via agent assistance.
- Knowledge management: collecting, correlating, and organizing product support information can dramatically improve customer service. A knowledge base of product support information should be available to agents as well as customers themselves.

The author Hensle, (2014) states further that the three primary types of information needed for the customer experience are:

- Customer: Customer information should be all-encompassing (i.e., 360-degree view) and customer-centric.
- Product: Product information needs to be complete and up-to-date.

- Content: Content provides the supporting material for all of the business functions across all touch points and includes a wide variety of formats, including documents, images, video, templates, etc.

The author Hensle, (2014), stresses the point that all of the information included in the customer experience solution must be accurate, consistent, authoritative, and real-time. Stale, batch-propagated information is the bane of a successful cross-channel customer experience. Likewise, multiple data storage systems containing overlapping but conflicting information lead to a poor customer experience.

The author Hensle, (2014) concludes that a complete, full-featured customer experience solution must cover all aspects of the customer lifecycle, i.e., the customer perspective. It must also cover the company's business processes to support the customer lifecycle, i.e., the company perspective.

2.1.6.2 Accenture's Nonstop-Customer Experience Model by (Carroll and Guzmán, 2013)

The authors Carroll and Guzmán (2013), emphasize that there is a clear trend in many industries toward the use of multi-channel approaches to engaging with customers. But in focusing on multi-channel, companies may be overlooking a more fundamental need—for a seamless, omni-channel approach that provides a single, unified experience for the customer across all channels. In addition, this omni-channel strategy may be especially critical for communications service providers (CSPs) due to the new competition they face under the global marketplace dynamic of convergence, in which customers are being provided with new options from an array of different companies and industry sectors.

Legacy service models and platforms are also making it more difficult for CSPs to cope with the rapidly moving target of customer expectations. Over the past few years, consumers have become more empowered, more connected to companies and to each other, and more globally diverse. Yet many service providers still utilize a decades-old, "one size fits all" service model that prevents them from responding effectively to the evolution in consumer needs and behaviours. (Carroll and Guzmán, 2013)

Accenture's Nonstop-Customer Experience Model, which is based on insights derived from Accenture research studies, reflects these changes and provides a new model for service providers' understanding of customer behaviour. This model illustrates how today's consumers behave and how their journey has fundamentally changed in three significant dimensions:

1. The customer's journey is now dynamic:

As per the authors Carroll and Guzmán (2013), one evident difference in today's consumers is their non-linear path to purchase. This path used to be illustrated by the traditional marketing and sales "funnel," which begins with awareness, moves through consideration and evaluation, and ends with purchase and retention. By contrast, while today's buyers still move through these same stages of the journey they no longer leave the process at the accustomed exit of "purchase"; instead, they continuously cycle through the stages of the journey, without ever exiting the evaluation process.

Enabled by technology, today's customers expect to interact with providers interchangeably across channels, from the web to call centers to retail and mobile, depending on their needs at any given moment. Consumers' pathways can be direct, but more often than not, they are nonlinear—as consumers enter and exit relationships with providers via much less predictable points or as they circle back to choices made previously. Customers frequently research other options online while in a retail store; in the wireless industry, for example, more than a quarter of customers who search for information in-store end up purchasing through a different channel (Carroll and Guzmán, 2013)

2. The journey is more accessible.

As per the authors Carroll and Guzmán (2013), more content than ever is being put in front of customers, much of it beyond any given service provider's control. Amplified and empowered by technology, the "voice or noise of others" is increasingly insistent and

influential. It is available anytime and anywhere, and it can come from or be accessed through anyone.

3. The journey is continuous, because the touch points consumers are exposed to are "always on."

As per the authors Carroll and Guzmán (2013), as a consequence, the evaluation of new products and services, not their purchase, is now the focal point. Consumers can more easily compare a provider's promise versus delivery and how well the overall experience matches up to their own expectations.

The authors Carroll and Guzmán (2013), stress that because their journey is dynamic, accessible, and continuous, today's customers increasingly expect a seamless, integrated, consistent, and personalized experience with their service providers, which current multi-channel models—with their multiple silos of customer contact—are unable to provide. Instead, a fully integrated response to these new customer requirements will need to be both customer-driven and omni-channel in nature. The growing need for a seamless, consistent, and personalized omni-channel response will soon be table stakes to compete in this ever-changing digital ecosystem. Unless CSPs meet customers' expectations for such a unified response, they may lose market share, or worse, struggle to stay profitable.

Authors Carroll and Guzmán (2013) recommend the following steps to provide a response in accordance with Accenture's Nonstop-Customer Experience:

- Meet customers where they are, i.e., in the channel of their choice.

- Recognize and acknowledge who individual customers are, the products and services they have purchased, and their prior interaction history, regardless of channel.
- Operate as a single brand and channel, orchestrating customer experiences across all touch points.
- Show customers they are valued through personalized offers, treatments, and rewards.

Communications Service Providers Response as per the Accenture's Nonstop-Customer Experience

According to the authors Carroll and Guzmán (2013), service providers must adapt their approaches to deal with the highly disruptive competition from OTT providers. CSPs need to avoid the traditional provider mentality, which reassures them that customers will not leave, and instead recognize that with many companies entering their traditional spaces, they need to earn the right to provide enhanced new services.

To address these imperatives and meet their customers' new demands for seamless service, CSPs need to break down the walls, integrate across the traditional silos, and leverage digital innovations to provide personalized interactions and services. Integration across traditional and digital channels is the obvious initial response. However, for sustained high performance, gains from focusing only on customer interfaces are likely to be low-order and short-lived. To deliver on the omni-channel promise to customers, there is a need to re-examine the operating model as it spans business functions, product lines, and external partners. Providers' focus should be on the operating model, business processes, and business technology as drivers and enablers of the integration effort focused on omni-channel experiences. (Carroll and Guzmán, 2013)

According to the authors Carroll and Guzmán (2013), communications service providers must take a customer-centric approach to their operational capabilities by optimizing and integrating their operations in several areas:

- **Insight-Driven Personalization Across the Enterprise**

First, CSPs must respond, across the enterprise, to customers' demands for a personalized and contextualized experience aligned with their needs and issues. To achieve this objective, one of the core capabilities required is to access, maintain, and combine meaningful customer data extracted from a variety of sources, including traditional physical channels, digital and social channels, network data, and data based on the customer's location and consumption patterns. (Carroll and Guzmán, 2013)

This data should be leveraged to create digital-focused micro-segmentation and to generate advanced propensity models that predict up-sell, cross-sell, and churn behaviours. Empowered by advanced analytics models, providers should focus on creating a personalized offer to be delivered through an insight-driven marketing campaign. In addition, to be truly effective, the recommended interactions should be generated dynamically based on the customer's context by leveraging tools such as Next Best Action and delivered on both inbound and outbound channels. (Carroll and Guzmán, 2013)

- **Integration Across All Channels**

As per the authors Carroll and Guzmán (2013), since omni-channel ideally reflects a single channel with multiple touch points, service providers must also achieve synchronization across all channels. This will require integration of both agent-assisted and self-service capabilities, as well as of underlying organizations, processes, and technology

platforms. The consumer expects the enterprise to have a consolidated view or profile of him or her, and the provider to provide a consistent experience across channels. This requires:

➢ Consistent insight-driven personalization is embedded into all channels, including physical, web, and store—providing the right information in an actionable form from real-time analytics engines and used to intervene in the customer interaction at the most opportune time.

➢ Unified P&Ls with incentive management systems and omni-channel-driven KPIs that focus on profitably delivering diverse products and services seamlessly across channels based on customer preferences.

➢ The ability to handle marketing, selling, and servicing in an integrated manner across multiple channels and to seamlessly track individual customers across the channels that they prefer to use.

➢ A flexible, integrated, and responsive technology platform that can support new products and services, facilitate the new operating model, and keep pace with the rapidly evolving digital consumer.

- **Integration Across All Business Functions**

According to the authors Carroll and Guzmán (2013), CSPs must provide seamless customer support across all of their business functions. The marketing, sales, service, training, product management, and supply chain functions must work in conjunction as a unified entity, meeting customers' demands by providing what they want, when they want it, and in the channel that best suits their needs at any given moment.

➢ Operationally, this can work effectively only by driving customer centricity from the top down: clearly designing, communicating, and delivering structured reward

structures, including alignment of organization and employee KPIs to incentivize the delivery of seamless omni-channel experiences.

➢ Marketing and product management, which for service providers includes devices and accessory groups, will need to work in tandem, with the customer experience considered just as important as product and price.

➢ Because service providers must be seamless in terms of buying, placing, and promoting devices, accessories, and other merchandise, inventory must be managed at the enterprise level. Moreover, that means the supply chain will need to develop the ability to holistically manage inventory going forward, backward, and sideways, ideally with the flexibility to deliver products to the highest-return opportunities. If there is a limited supply of equipment, the system needs to have the capability of determining which sales opportunity offers the highest margins, regardless of channel. It should also have the capability of determining the best, lowest-cost means of fulfilment that is tailored to the individual customer's needs.

Communications service providers will need to get the new operating model right in a ll of these ways and more, bringing their siloed business functions together to know and s erve the customer.

- **Integration across All Products and Services**

Finally, the authors Carroll and Guzmán (2013), argue that CSPs must provide converged customer support across all products and services. Providing end-to-end solutions that are comprised of bundles of services—including voice, TV, Internet/data, devices, connectivity, and content—will be critical. This may mean shifting from product-centric operations to customer-centric operations.

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Customers want to feel like they are dealing with a single person for all their needs across all their products. They want the service provider to know their personal profile, including devices, services, and content purchases across the entire portfolio and across all accounts—personal and business. Metrics and incentives will therefore need to expand to include holistic customer value, with comp "customer" sales becoming as important as comp "store" sales. Service providers must stop thinking just in terms of ARPU and instead look at average revenue per account, including different members of a household, and consider the lifetime value of a household. (Carroll and Guzmán, 2013)

The authors Carroll and Guzmán (2013) summarize that, while digital convergence is a threat to the unprepared, it is also a tremendous growth opportunity for companies that can out-innovate and out-execute their ever-expanding list of competitors. A clear vision of the omni-channel future is emerging and is accessible to communications service providers just as it is to companies in other industries. Powered by technology, analytics, mobility, and flexible marketing operations, communications service providers can deliver innovative experiences in ways that bridge marketing, commerce, and service interactions. In addition, they can do so by integrating across all functions, products, and services and ultimately by providing personalized customer interactions across all channels.

2.1.6.3 Multi–Touch Point User Experience The Telecom Service Providers Perspective by (Khambete, 2008)

As per the author Khambete (2008), a noticeable trend in recent times is the primacy of services in the consumption basket of people. Telecommunications services are a prime example. Another trend is customers' increasing demand for additional value. Competition and abundant choice, which means providing superior customer value, are now imperative for organizations to survive. To continually provide value to customers, organizations must do a better job anticipating and responding to customer needs than the competition does. In many cases, adding a service element to what was previously sold as a standalone physical product adds additional customer value.

The author Khambete (2008) further emphasizes that organizations are increasingly engaging with their customers through multiple channels. Each channel, in turn, can be accessed via multiple touch points. For example, the traditional sales channel, a shop, may have touch points like the sales assistant, kiosk, and even the display itself. Poor user experience at touch points is likely to not only lead to incomplete transactions but also leave customers dissatisfied. In view of the importance organizations now place on building lasting relationships, it is even more relevant to understand the concept of touch points in depth and the attributes that influence the user experience at these touch points.

Touch Points in the Context of Telecom Service Providers

According to author Khambete (2008)'s Multi-Touch Point User Experience, Telecom Service Providers (TSPs) have two main types of customer engagements:

➢ **Subscription to services and purchase of physical products**

  • The endpoint of this engagement is the commencement of service.

➢ **"In life" relationship**

This engagement starts from the commencement of service. Some examples of transactions that take place in the in-life relationship are as follows:

  • Presentation of bills
  • Payment of bills
  • Making customers aware of new advantageous offers
  • Resolving any trouble customers might experience in using the services.

This is probably the most important one from the viewpoint of customer satisfaction and relationships. Of course, customers would generally subscribe to different kinds of services or purchase other products during the in life phase.

A customer typically passes through a set of stages while transacting with a TSP and would encounter and choose among several touch points. The diagram below depicts the case of a service subscription.
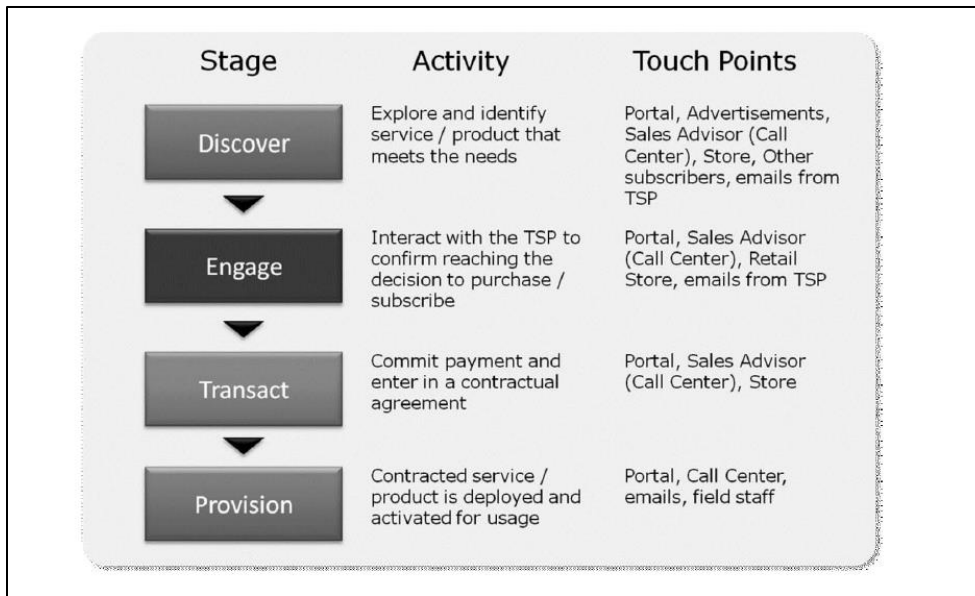
Figure 1 Customer set of stages while transacting with a TSP and their touch points

Source: Multi–Touch Point User Experience The Telecom Service Providers Perspective by (Khambete, 2008)

As per the author (Khambete, 2008). While the overall goal might be to subscribe to a package that satisfies one's needs, there would be sub-goals associated with each of the stages. For instance, the sub-goals at the discovery stage are likely to be the following:

➢ Becoming aware of the various products available in the market that appear to be suitable

➢ Understanding the details and carrying out a comparison of features and prices

➢ Identifying the vendor and the channel to move on to the engage stage

Multi–Touch Point User Experience: Challenges

While the concept of touch points is often understood directly or indirectly in marketing activity, it is important to understand the UX perspective. Some challenges and directions for developing a strategy for touch-point UX are highlighted by the author Khambete (2008) as follows:

➢ Defining the concept of touch points within the context of the business.
➢ Identifying the attributes of touch points under consideration, including the strengths and constraints they pose on the nature and quality of UX.
➢ Determining transaction types and how transactions could be handled through multiple touch points, taking into account the changes in the users' goals, expectations, and emotional states, which can and do change significantly as task flows progress.
➢ Continuing to maintain the UX as users move from one touch point to other. Considering that various touch points might be handled by different combinations of human, hardware, and software components, it is critical to have in place a sound touch-point orchestration strategy.
➢ Understanding the orchestration strategies used by different firms and their effectiveness could be another possibility.
➢ Understanding the relationships and influences among the various components that constitute the multi-touch point ecosystem—hardware and software systems, UX strategies, business processes, business strategies, and other aspects of organization.
➢ Defining schemes for measuring the quality of multi-touch point UX.

The author Khambete (2008) emphasizes that even though users demand more and organizations tend to provide choice to attract customers, enhance the user experience ("put the user in control" is one of the axioms in the UX domain), and increase customer satisfaction, it might be advantageous to organizations and beneficial to users to limit the choice of touch points without appearing to be doing so. This can only be accomplished by

making the UX at the desired touch points appealing enough to entice users to transact at a specific touch point of their choosing.

The author Khambete (2008) further observes that TSPs everywhere are attempting to induce their customers to use self-service portals not only for resolving service issues and queries but also for purchasing new products and plans and making modifications to current ones. It benefits the TSPs, as the costs of handling such transactions through customer care centers (aka call centers) are increasing day by day. While complex requirements and service issues would require human intermediation, several kinds of transactions can be handled effectively via a self-service portal. However, successfully making the self-service portals the first touchpoint of choice would hinge largely on how the UX is designed.

However, the author Khambete (2008) cautions that, while some cultural similarities are undoubtedly present, it would be inappropriate to simply replicate the touchpoint UX models that prevail in mature telecom markets for maturing markets such as India. It is possible that novel touch points could be more effective in such markets, or that even conventional touch points will have to be designed differently to provide a satisfying UX. For example, the self-service kiosks in India will have to be designed differently to take into account a wide variation of literacy levels as well as regional and language variations. It should be noted, however, that customers appear to use mobile phones with ease despite language and literacy barriers. TSPs can surely learn from these experiences and expand the range of touch points to sustain a satisfying relationship.

The author Khambete (2008) concludes that Telecom services have now reached nearly universal adoption and command an indispensable place in the life of people. Besides, TSP's business models are based on lasting and persistent relationships with

customers. Therefore, TSPs cannot afford to neglect leveraging the full potential of available touch points to drive the relationship with their customers and thrive in business.

2.1.6.4 Truly Managing the Customer Experience by (Kingstone, 2012)

The author Kingstone (2012), states that for CSPs, providing the right customer experience is the key to boosting operational efficiencies, building customer loyalty, and growing wallet share. The goal is to conquer new markets and generate new revenue streams while delivering the right customer experience that keeps customers happy and the business profitable. In addition, while SQM has been accepted for the past decade with positive results in measuring and managing the quality of network service, today's end-users are more sophisticated. They expect not only higher service quality but also a differentiated, consistent, and transparent end-to-end customer experience. CSPs must now move from measuring the quality of individual services to measuring the complete end-user experience. The successful operator will be the one that can capitalize on this trend and focus on total CEM. (Kingstone, 2012)

The author Kingstone (2012), further states that managing the customer experience is not just about capturing customer information and order requests; it requires a total transformation for the industry. CSPs must evolve from an operational service strategy to a more customer-focused experience management model. This is the only way they can differentiate themselves from the competition and increase loyalty.

The author Kingstone (2012), notes that CEM strategies usually suffer from one or more of the following ailments:

➢ They are too network-centric. A typical occupational hazard a service provider network team attempts to transform is network centricity, which results when teams view most of the world through the lens of network and QoS measurements. These are too narrow and capture just one part of the experience.

➢ They are too focused on customer relationship management (CRM) and customer care. Another function-specific, inside-out view, this attempt to transform tends to rely on internal measures of quality, such as average hold time and call abandonment rates. In reality, however, such measures have nothing to do with the overall experience; they simply measure service provider transaction response efficiency.

➢ They are too service provider-centric. These measurements see only those attributes controlled directly by the service provider and do not include third-party capabilities such as downloads, ring tones, interconnect handoffs, entertainment content, and applications.

Delivering the Framework for Success

Since many network operations departments still function using a network-centric performance management approach rather than understanding the impact of an end-to-end experience, the overall impact on the customer experience cannot be determined. To truly create a differentiated experience across the customer life cycle, operators must use insight from both the service and the user to correlate data from the network, devices, and services to understand, manage, and predict their customers' expectations. (Kingstone, 2012)

The author Kingstone (2012), further states that having insight into network performance and service quality leads to a better understanding of the customer experience.

Once that foundation is established, operators can advance by adding measurements that determine the emotional factors impacting end-users. More sophisticated modeling at the PSPU level is perfect for other departments such as customer care and marketing.
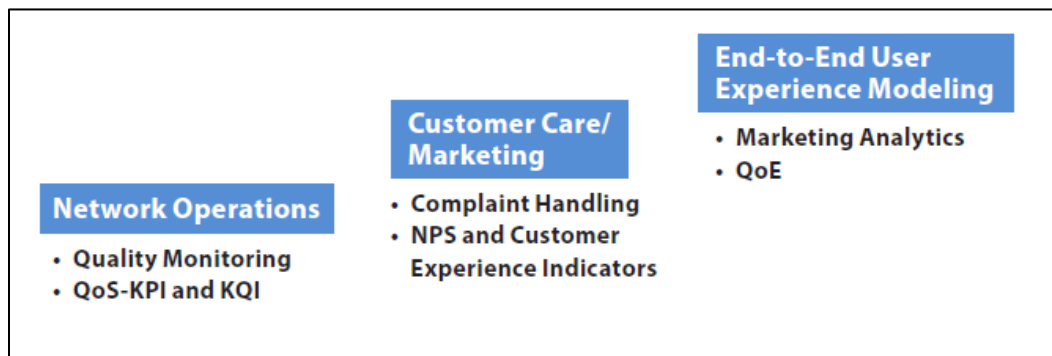
Figure 2 Potential Stages of Customer Experience Transformation

Source: Truly Managing the Customer Experience by (Kingstone, 2012)

The author Kingstone (2012), suggests the following examples of how this insight can improve the customer experience:

Proactively Resolve Problems and React at the Right Time:

Rapid growth in mobile broadband subscriber numbers and data volumes has overloaded backhaul links and parts of the packet core for most CSPs. The result is a disappointing experience for subscribers, especially if they are using smartphone devices touted as high-speed 3G or 4G. CSPs must use the insights to determine who is having a negative experience and how much effort is required to satisfy them. Proactive resolutions of customer problems are essential to avoid a customer complaint call, and right-timing interactions—such as lowering the average handle time—will ensure customer satisfaction.

It is important to monitor and proactively act before a customer notices a problem or has the time to complain to a call center to avoid not only a negative experience but also increased costs for the contact center. (Kingstone, 2012)

Reduce Average Call Handling Time for Customer Service Representatives (CSRs)

The author Kingstone (2012), observes that typical contact center metrics tracked today focus on first contact resolution (FCR), average hold time, and average talk time. FCR is attracting the most attention among contact centers and customer care executives today—and with good reason. Most calls are repeat and/or escalated calls that require extensive rework or time from more expensive technical support representatives. This not only creates a drain on contact center time, but it also erodes the subscriber experience and could lead to churn.

The author Kingstone (2012), further observes that if an issue is escalated to a call center, an operator should find out if the specific network problems are affecting customers' satisfaction and subjective threshold. It is also important to share the history of the user's experience with active guidance for first-line and/or second-line CSRs so that average handle time can be decreased through improved diagnosis of customers' complaints. This ensures the trouble ticket includes a technically accurate description of the customer complaint, enabling corrective action by the appropriate support group, which dramatically improves FCR rates.

By proactively identifying user issues, agents can more accurately and quickly solve subscriber issues, ultimately lowering the cost to serve. Effectively understanding the end-to-end service quality issue demarcation covering device, wireless network, core network,

IP backbone, backhaul, user behavior, and even policy control will improve the efficiency of the complaint-handling process to reduce the operational workload, improve customer perception, and increase the ticket closure rate. Grouping end users with common problems highlights service-related issues that are impacting a greater number of subscribers. This insight can then be used to proactively avoid more customer calls. (Kingstone, 2012)

Monitor Revenue-Earning Transactions to Ensure Cross-Sell and Upsell Success

The author Kingstone (2012), advises that CSPs need to guide both the customer using a self-service channel and the CSR with relevant products and services based on needs analysis, policy, and eligibility rules. Once an offer is accepted, CSPs must quickly identify relevant and personalized additional products or services that add value to the customer. A wealth of subscriber information can be used to understand subscribers' needs, interests and behaviours. This not only ensures the delivery of personalized offers, but also guarantees that the service experience doesn't negatively affect the brand.

The author Kingstone (2012), further advises that as 4G and LTE networks mature, over-the-top services such as video and VoLTE impact network resources. It is important to correlate precise traffic issues with any particular service to ensure customer expectations are properly addressed and resourced. Information could also be used to analyze traffic trends to assist in cooperative marketing arrangements and/or special pricing to drive adoption of services. Operators also should design, implement, and verify policies to ensure adequate resource availability for high-value end-users, services, or applications based on mobile broadband capacity assessments and forecasts aligned with the operator's business objectives.

The author Kingstone (2012), concludes that it is time for operators to make a radical change from just measuring independent KPIs to actually understanding and measuring the end-to-end experience with the end goal of providing proactive prevention. They must focus on understanding the "real" service experience, so they can ensure customer experience transformation.

To succeed, author Kingstone (2012) recommends operators:

- Check that any potential partners can work in a multi-vendor, multi-technology environment. An important component is the need to manage rapidly growing multi-vendor and multi-technology networks with diverse standards. To manage complex multi-layered services, partners should have proven experience adapting to growing and changing network requirements for managing next-generation networks in combination with legacy systems.

- Look beyond SQM when measuring the experience. While SQM is not currently considered the leading end-user satisfaction indicator, it still provides value in the overall assessment process when supplemented by other network, service, device, and user insights. It needs to be modelled to optimize the experience.

- Ensure a PSPU view—it is the only logical and effective method to raise the overall level of satisfaction indicator. While the critical success factor of the customer experience is the extent to which the customer's needs are satisfied, indicators such as the NPS, likelihood to churn, and other loyalty indicators can be a great start. However, it is critically important to relate these results to key network events.

2.1.6.5 Antecedents and Consequences of Customer Experience Management by (Fatma, 2014)

The author Fatma (2014), observes that customer experience management (CEM) involves managing a customer's experience with a product or service strategically. Customer relationship management (CRM) is concerned with the recording of transactions, whereas customer experience management (CEM) is concerned with the experiences that customers have during their interactions with the firm. CEM takes the customer relationship forward. Customer emotions need to be managed effectively to gain and retain customers. CEM is the new marketing paradigm. CEM goes beyond CRM in that it not only records transactions but builds rich relationships with the customers, and it strategically manages customer experiences across all touch points that a customer has with a company or product.

The author Fatma (2014), defines "pre-experience" as the first stage in the CEM process. In this stage, customers prepare for consumption and also anticipate the consumption process by first imagining the experience, searching for relevant information about the type of experience they would want, and finally planning and budgeting for the experience.

The author Fatma (2014), notes that experiences help form attitudes. Attitudes are not stable over time. Good experiences result in favorable attitudes. However, consistent positive experiences reinforce feelings for the brand. Recall of experience results in attitude toward selected elements of the overall experience, and this influences attitude towards branding. The author Fatma (2014) further identifies six categories of antecedents, namely: brand performance, multichannel interaction, service interface, physical environment,

social environment, price, and promotions, as well as three direct consequences, namely customer satisfaction, customer loyalty, and customer equity.
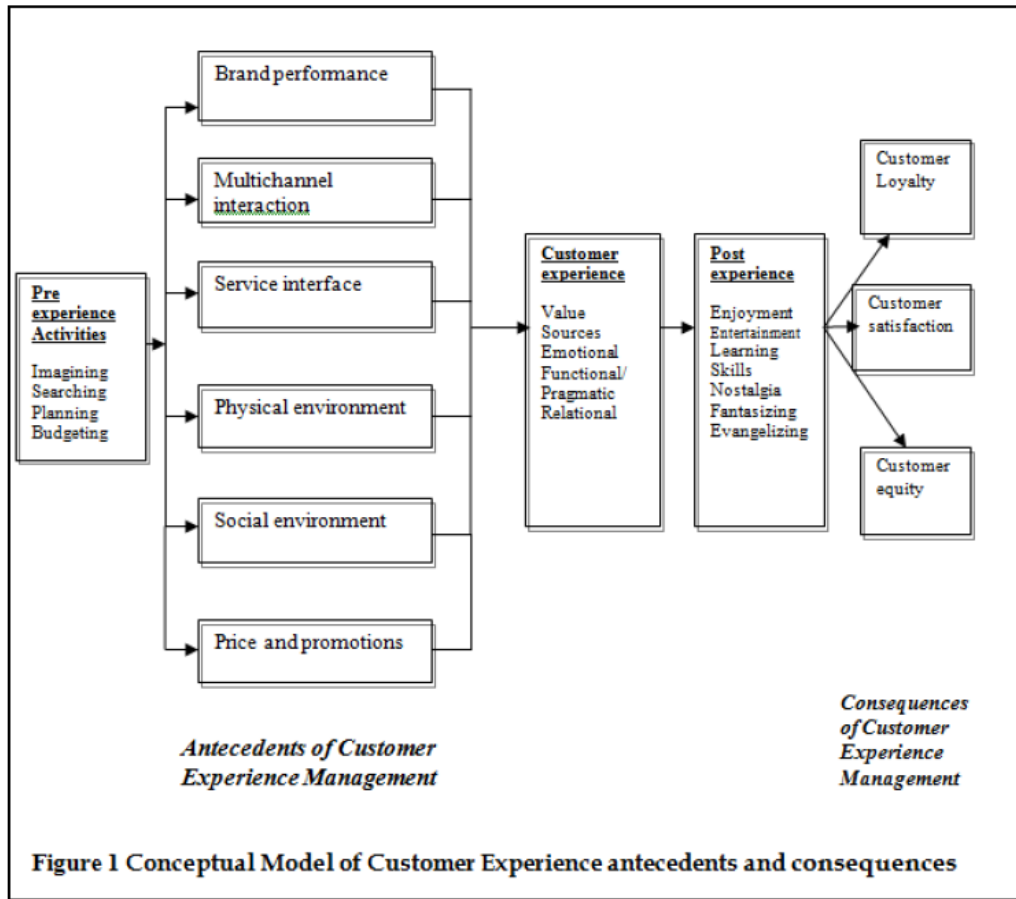
Figure 3 Antecedents of customer experience

Source: Antecedents and Consequences of Customer Experience Management by (Fatma, 2014)

Brand Performance

As per the author Fatma (2014), the product is the touchpoint likely to create the strongest emotional reaction because it is in the product experience that the brand promise is fulfilled. Brands help to develop attitudes, which in turn influence behavior. The majority of research has concentrated on the quality aspect of brand performance and the impact of shifting attitudes. Customer perceptions of beliefs and attitudes towards a product are shaped by its performance, which must be integrated with an emotional framework that helps in building and sustaining relationships with customers. Customer attitudes are formed by customer experiences, which are the sum of product performance, packaging, and display as well as point-of-purchase perceptions. Satisfaction is the overall level of contentment and pleasure resulting from a service or product experience.

Multichannel Interaction

According to the author Fatma (2014), the goal of multichannel customer management is customer acquisition, development, and retention. Multichannel customer management involves the design, deployment, coordination, and evaluation of all the channels through which companies and their customers interact. Customers view a solution as a set of customer–supplier relational processes comprising (1) customer requirements definition, (2) customization and integration of goods and/or services, (3) their deployment, and (4) post-deployment customer support, all of which are aimed at meeting the customer's business needs. Multichannel integration requires structural changes in an organization and also changes in customer behavior. It is, from a firm's point of view, a strategic issue.

Service Interface

As per the author Fatma (2014), customers experience a variety of negative emotions when service failures occur. Interestingly, the customer's perception plays an important role here. The type of reaction depends on the customer's perception of why the service failure occurred. In order to provide better customer experiences, businesses attempt to incorporate such elements into service design. Service interface has a major effect on experience, which leads to brand experience recall and ultimately shapes attitudes.

Physical Environment

As per the author Fatma (2014), the physical environment is also an important contributor to shaping the customer experience. When management is thought to be responsible, how service is delivered becomes important. When responsibility is perceived to be shared between contact employees and management, the physical environment may play a larger role in influencing the consumer's satisfaction with the service experience. Customer experience is profoundly affected by physical evidence, particularly the service cape. This is inclusive of experiences that are spectacular (e.g., travel adventures), routine (e.g., bus rides), or meaningful (e.g., weddings).

Social Environment

As per the author Fatma (2014), the social environment is inclusive of interactions with other customers in retail settings and is also inclusive of interactions with other customers in online applications, platforms, and media that aim to facilitate sharing of content. Ideally, companies expect a customer to interact with them regarding a product or

service concern; in reality, customers usually rely on peer-to-peer interaction as a source for company information. This is also the most trusted source. Since peer-to-peer interactions are one of the major influencers, companies should try to cultivate peer-to-peer communities.

Price and Promotions

According to the author Fatma (2014), while lower prices are inducements to purchase, there is a direct relationship between customer experience and pricing effects. When companies focus only on reducing costs to support lower prices and show little or no sensitivity to the experiences that customers have, they may actually be decreasing the value of their offerings. The importance of sensory experience cannot be underestimated. If a customer is burdened with factors like long waiting lines and a disorganized store, then this can outweigh the customer's consideration of price.

As per the author Fatma (2014), the customer experience is therefore a range of clues that help them generate a set of impressions. The impressions that customers have may be extremely obvious or subliminal. They may occur or be designed. Clues help form impressions, which become experiences. Experiences are reinforced by positive or negative clues. Clues may be performance-based or context-based. Performance clues are based on the functions of a product or service. Context clues are more related to the sense of "atmospherics," which involves sight, sound, touch, taste, and smell. Positive customer experiences can be derived by systematically engineering the clues. Clues also help to differentiate experiences. If clues are not managed properly, they also provide a negative perception.

Post Experience

As per the author Fatma (2014), product consumption occurs after the purchase. It could happen that consumption occurs on more than one occasion. Every consumption occasion is another moment of truth. Hence, there could be one or multiple moments of truth. The second moment of truth involves use, handling, and actual consumption post purchase. Since, at this stage, it involves the separation of purchase and consumption, the benefits that influence customer satisfaction may be different in the first and second moments of truth.

The author Fatma (2014), concludes that the concept of customer experience is not new. Historically, this has been used, analyzed, and implemented by many enterprises. But today, with the advent of new technologies, the integration of channels, and the development of customer communities, the orchestration of the customer experience has not only become important but also necessary. The author Fatma (2014), has highlighted the antecedents that shape the customer experience. These are inclusive of brand experience, multichannel interactions, service interface, physical environment, social environment, price, and promotions.

2.1.6.6 Five dimensions for cellular mobile services of a telecom company by (Joshi, 2014)

The author Joshi (2014) , defines "customer experience" as the sum of all experiences that a customer has at every touchpoint of the customer-company relationship. It is an intentional effort on the part of the company to develop and maintain a good experience that is differentiated from the competition, consistent at every touch point, and most importantly, valued by the customer.

The author Joshi (2014), further observes that customer retention can be achieved by identifying the highest revenue-generating customers and managing the customer experience for such profitable customers. It is essential to develop effective methods to retain existing customers for any telecom operator, which includes two major steps. One is identifying the revenue-earning customer, and the second is managing the customer experience and generating value for the customers who are the high revenue generators for the company. (Joshi, 2014)

The five dimensions for cellular mobile services of a telecom company proposed by Joshi (2014) are:

1. Service performance/delivery
2. Culture of customer care
3. Communication
4. Brand
5. Environment

Figure 1: Factors that affect customer satisfaction
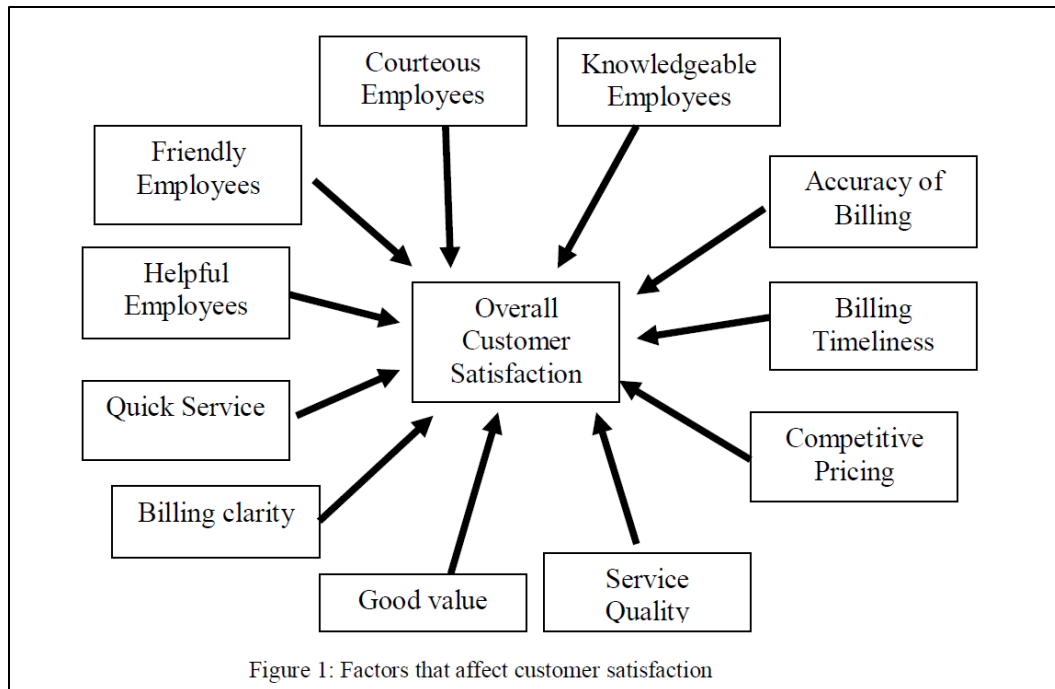
Figure 4 Factors that affect customer satisfaction

Source: Five dimensions for cellular mobile services of a telecom company by (Joshi, 2014)

According to Joshi (2014), service delivery and service performance have the greatest impact on the customer experience for cellular mobile services and enumerates that service performance and delivery consist of the following seven items:

1. Consistent service delivery
2. Appropriate charges, value for money
3. Pricing better than competitor
4. Data connectivity and speed
5. Product better than competitor
6. Network coverage
7. Quality of service

The author Joshi (2014), further states that customer care is an important factor affecting customer experience for cellular mobile services, which consists of 4 attributes as under:

1. Efficient customer care
2. Feel valued as customer
3. Company responsiveness
4. Complaint handling

The third factor, according to author Joshi (2014), that affects customer experience for cellular mobile services is communication, consisting of the below 3 attributes:

1. Update of current/new services
2. Service matching customer needs
3. New technology launch/time to market

The fourth factor, defined by author Joshi (2014), that influences customer experience for cellular mobile services is brand, which has three attributes as follows:

1. Marketing communications
2. Brand image/reputation
3. Incentives/promotions by operator

The final factor, according to author Joshi (2014), that affects customer experience for cellular mobile services is the environment, which consists of 3 attributes as described below:

1. Ease of recharge
2. Billing transparency
3. National do not call registry (NDNC registration)

The author Joshi (2014), conveys a strong message to cellular service providers that, since service delivery or service performance is the major factor affecting customer experience for cellular mobile services, it is very important that cellular service providers stress perfect service delivery. They must ensure that service delivery is consistent as far as quality of voice service, network coverage, data connectivity, and speed are concerned. Customers need to feel that they are getting excellent service at appropriate charges that is, getting value for their money. (Joshi, 2014)

The author Joshi (2014), recommends that a culture be built in the organization wherein employees are trained to care for the customers, handle their complaints with patience, be responsive while delivering service, and make the customer feel valued. As the employees interact with the customer on an ongoing basis, they can communicate the customer's requirements to the service provider, which in turn will help them formulate their marketing strategy.

The author Joshi (2014), further emphasizes that a well-formulated marketing strategy suited to satisfy the customer will lead to customer retention. A manager must understand that the factor analysis has indicated that communication factors, brand factors, and environment factors also have an impact on the customer experience for cellular services. Hence, a manager should ensure that it is communicated to the customer that the service offering has been designed keeping in mind his requirements. They also need to ensure that new services and new technologies are introduced at a faster pace. The brand image or reputation of a service provider will also make the customer feel proud to own those services, so marketing communications play an important role in creating the customer experience. (Joshi, 2014)

2.1.7 Customer Experience Frameworks in the Indian Telecom Industry

Customer experience involves total participation during the customer lifecycle, including the search, consumption, purchase, and after-sale phases of the experience, measured against the customer expectations, which will eventually augment customer retention and loyalty, conclusively affecting the business value. (Domb et al., 2015).

I now analyze the various frameworks used in the telecom business for measuring and defining customer experience, which are described below.

2.1.7.1 The Wipro Technology Framework by (Wipro technologies, 2012):

As per Wipro Technologies (2012), in an industry where competition is fierce and disruptive innovations threaten traditional telco business models, customer experience improvement can address many of the challenges that CSPs face. Focusing on the customer experience can enable CSPs to respond more effectively to customer requirements, build customer loyalty, and create a stronger value perception in the minds of customers. Additionally, customer experience improvement can generate sustainable competitive differentiation, improving prospects for long-term profitability.

They further state that to achieve impactful customer experience improvements, CSPs require a uniform approach to define, evaluate, and prioritize customer experience improvement initiatives and maximize the impact of a customer experience improvement program. Wipro has developed a holistic framework that takes into account multiple customer experience improvement dimensions, from network quality to customer care. The framework also proposes a mechanism for prioritizing initiatives based on customer

experience impact as an enhancement to the traditional approach of prioritizing initiatives based only on financial impact. (Wipro Technologies, 2012)

The Wipro Technology Framework (Wipro Technologies, 2012) states that to ensure that customer experience improvement initiatives are closely tied to business objectives, telecom companies should adopt a unified framework to document the customer experience impact of these initiatives. The customer experience impact, in conjunction with the financial business case, will provide a single window to evaluate and prioritize initiatives.

Figure 2: Dimensions of Customer Experience in Telecom,
Source: Wipro Technologies
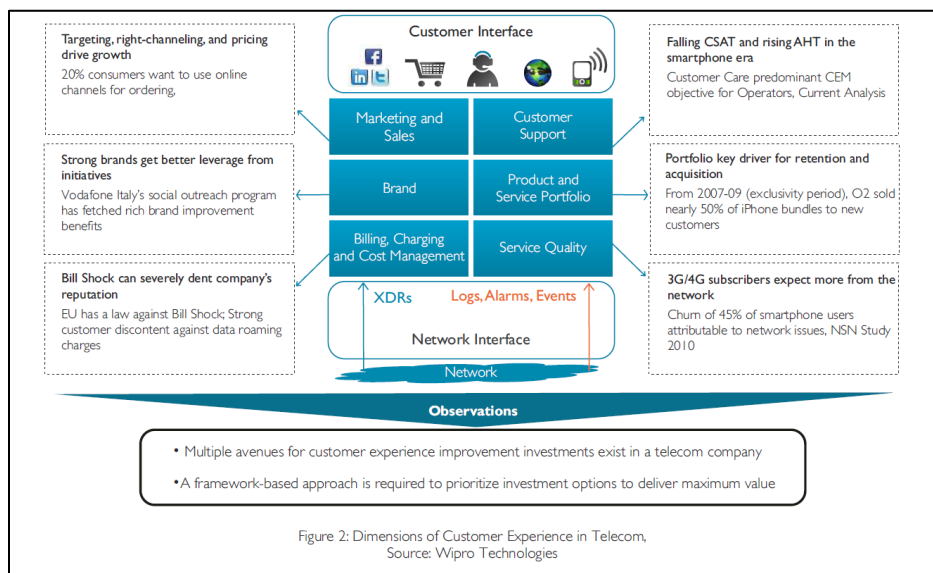
Figure 5 Dimensions of Customer Experience in Telecom

Source: The Wipro Technology Framework (Wipro Technologies, 2012)

The Wipro Technology Framework (Wipro Technologies, 2012) takes into account the six dimensions of CE measurement as below:

- **Marketing and Sales**

    A well-directed marketing campaign can positively influence purchase decisions, while a misdirected campaign can lead to customer discontent. CSPs' sales processes can also impact customer satisfaction. Customers' expectations of the purchasing experience have grown as they increasingly use digital channels to acquire new services. Access to multiple service channels and a consistent experience across all channels have become crucial determinants of customer satisfaction. Consumer behavioural insights drawn from product, channel, and usage preference data residing with CSPs can be used to significantly enhance the buying experience.

- **Customer Support**

    Strong customer support capabilities play a crucial role in shaping customer perception. In a customer satisfaction survey conducted by Consumer Reports, AT&T received the dubious distinction of being rated the worst mobile carrier in 2011. Interestingly, Consumer Cellular, an MVNO using AT&T's network, took the top spot. Given that the underlying network was the same in both cases, this indicates that customer support can be a key differentiator for CSPs.

- **Brand**

    CSPs' marketing messages set customer expectations for service delivery. For instance, a mismatch between advertising promises and service delivery can create dissonance in the minds of consumers, which can result in dissatisfaction and churn. For example, a CSP promoting an "always-on" network will

experience much stronger customer backlash from network outages and session drops compared to a CSP positioned as a low-cost carrier.

- **Product and Service Portfolio**

An attractive product and service portfolio strongly influences customer choices. In 2007, O2 acquired the exclusive rights to iPhone sales in the UK. Nearly 50% of the iPhone bundle plans sold by O2 during the seven-day period of exclusivity were sold to new customers. This indicates that a good product can induce customers to switch allegiances even if they are otherwise satisfied with their existing service provider.

- **Billing, Charging, and Cost Management**

Billing issues account for a large share of customer complaints. Bill shock prevention is receiving more attention from regulatory bodies. It is not easy for CSPs to provide billing transparency, especially with the proliferation of data services. Customer satisfaction can be improved by providing complete visibility of charged services and regular updates on cost management.

- **Service Quality**

Telecom companies constantly interact with their customers through their networks. Dropped calls, service disruptions, and security breaches can be significant sources of discontent. In 2001, a study by Booz Allen Hamilton indicated that 17% of customer churn is attributable to network issues. Nearly a decade later, a similar study by Nokia Siemens Networks found that 45% of smartphone users who switched cited network quality as a factor, indicating that

the role-played by network issues in determining customer satisfaction is steadily rising.

The Wipro Technology Framework (Wipro Technologies, 2012) concludes that in today's hyper-competitive environment, customer experience is critical to the success of telecom companies. Most CSPs understand that delivering a superior customer experience is the key to winning customer loyalty and building sustainable competitive differentiation. Consequently, CSPs have already initiated customer experience improvement projects at different levels in their organizations. Since the customer experience in telecom is multi-dimensional, the initiatives undertaken to improve it also needs to be multi-dimensional, addressing different functions from customer care to network departments. However, most customer experience improvement initiatives today are fragmented and fail to employ the holistic approach that is required for success.

The Wipro Technology Framework (Wipro Technologies, 2012) further closes with remarks that to ensure that customer experience improvement initiatives are closely tied to business objectives, telecom companies should adopt a unified framework to document the customer experience impact of these initiatives. The customer experience impact, in conjunction with the financial business case, will provide a single window to evaluate and prioritize initiatives.

2.1.7.2 Ericsson Framework by (Ericsson, 2012,2022):

The Ericsson Framework (Ericsson, 2022) states that "customer experience is becoming the main differentiator among service providers as consumers rapidly and persistently acclimate to new and higher expectations from broadband users streaming their favorite TV series to the 5G-powered critical communications of industry 4.0, with autonomous cars, remote surgery, or automated factories and plants." As a result, successful network operations are dependent on advanced AI, automation, and data analytics to move from reactive to proactive, making sense of billions of data points and acting before network issues become customer issues.

The Ericsson Framework (Ericsson, 2022) further states that the customer experience is often described as delivering what the customer wants, when they want it, and in a way that best suits them. For a service provider, a good customer experience is the result of best practices built into virtually every aspect of the network. From planning and design, increased data traffic and demand require us to expand and densify networks with precision.

The Ericsson Framework (Ericsson, 2022) emphasizes the benefits of providing a good customer experience, as "customer experience matters" and consumer and enterprise expectations have never been higher. Doing it well presents an opportunity for service providers to exceed expectations, deliver services quickly, share information, and prevent problems rather than just react to them. It also presents many opportunities to understand usage and preferences with a view to cross-sell, up-sell, and target new services as they are launched.

In the telecom space, operations support systems (OSS) play a critical role as they link a CSP's business systems to the network and ensure that service intent can be delivered in reality. On the Business Support Systems (BSS) side, all touchpoints and interaction points for requests, inquiries, and payments pass through BSS. Intelligent network performance management enables service providers to analyze complex data sets and improve network performance in real time, whereas optimization focuses on optimal performance throughout the network lifecycle. (Ericsson, 2022)

The Ericsson Framework (Ericsson, 2022) insists that from the moment that consumers and enterprises inquire about new services, as services are consumed, as consumption changes and services are added or removed, and even on the cessation of a service, they will interact with BSS. Interaction is constant, either directly or through an agent or advisor. And there is a constant feed of information and transactions that originate in BSS, in the form of charges and invoices.

On the OSS side, the telecom customer experience is impacted by a huge number of factors, from the ease of ordering to the physical network infrastructure and design. Each area has its own approach to delivering the perfect customer experience. Within Ericsson's Dynamic Orchestration portfolio, there are six main capabilities that improve the customer experience:

- Closed-loop service assurance
- Pre-integrated customer analytics
- End-to-end network slicing
- Rapid service creation
- CI/CD lifecycle management
- Automated service ordering and orchestration.

BSS has a role to play in frictionless transactions and experiences, ensuring that context translates to relevant engagement and that insights translate to added value. Digital experiences are smoother, easier, and faster. Converged charging rapidly associates usage with charges. AI and ML add a new level of precision to understanding the past, present, and future of service consumption. BSS is evolving to ensure customer experiences surpass expectations. (Ericsson, 2022)

According to Ericsson (2012), customer experience management is defined as a holistic approach to monitoring, measuring, and improving all the touch points of customer interactions between the telecom operator and the customer. Every touchpoint or interaction with a customer is an opportunity to impress. Customer expectations of easy, fast, and "first time right" are table stakes, and while "issue resolved quickly" was sometimes a source of satisfaction in the past, "no error in the first place" is more commonly expected today.

The Ericsson Framework (Ericsson, 2012), measures CE based on five stages in the customer lifecycle:

- Initial experience
- Billing and Payment Process
- Account Management
- Service Support
- Loyalty Building.

Telecom's senior executives, according to the Ericsson Framework (Ericsson, 2012), are making experience management a top priority because they recognize the importance of delivering on the brand promise in order to retain and manage their customer

base. Defining the most relevant performance indicators and determining how to measure them will depend entirely upon what is considered to be most important by your customers. Importantly, customer expectations also vary according to their particular position in the relationship cycle, which requires a holistic perspective when addressing the definition and measurement of KPIs. Measuring and monitoring the customer experience in real-time or near real-time requires operators to know what they want to measure and what actions are to be taken.

The Ericsson Framework (Ericsson, 2012), concludes that service providers need to build their customer experience foundations on a genuine understanding of the most valuable customer interactions and the ability to monitor those interactions and proactively address potential issues. Monitoring indicators must be accompanied by a strong transformation program that addresses key development areas in a structured and systematic manner, with a financially driven mentality and a high level of empowerment and visibility in the organization. Customer experience management can be a complex transformation journey for service providers and will become increasingly so as markets continue to mature and users increasingly adopt smartphones, tablets, and a variety of new mobile broadband services.

2.1.7.3 TCS Customer Experience Management Framework by (TCS, 2012):

Customer Experience Management (CEM) can be a good way for organizations to manage the shift to the "customer economy," where customers have more power than ever before. For CSPs, focusing on the customer is not new, nor is the "customer first" idea. The potential consequences of failing are novel. In an industry where the concept of brand loyalty is fast disappearing, CEM can certainly be a key enabler of sustainability for CSPs by providing a better experience to existing customers instead of investing in acquiring new ones. Even though CEM is complex, its importance warrants simplification. A change in functional perspective to address CEM can help develop this simplified approach. (Nandan and Hines, 2012)

The authors Nandan and Hines (2012) of the TCS Customer Experience Management Framework warn that customer experience management (CEM) can be a highly complex, resource-intensive, and, at times, "leading to nowhere" program. However, it is imperative for Communication Service Providers (CSPs) who are deeply affected by value-chain shifts, disruptive innovations, and the inherent complexity of their operations. While there are some genuine efforts, there exists a significant amount of cosmetic effort in the name of CEM, as evident in global survey reports. This has resulted in the perception that CEM is merely a buzzword.

The authors Nandan and Hines (2012) suggest that a constructive way to address the perception that CEM is merely a buzzword is by simplifying the approach. This would ensure a scientific and analytical step-by-step process that may be monitored, controlled, and tailored to suit organizational goals and the next financial year's strategy. The authors Nandan and Hines (2012) continue to discuss an analytical approach towards

a CEM construct that can be designed, developed, and executed as an eight-stage program by CSPs.

The authors Nandan and Hines (2012) further suggest that, for a CSP to successfully design and execute a CEM program, the first thing to address is the philosophy that motivated them to implement CRM and CLM in the first place. CSP operations need to change their focus to serve customers by meeting their needs first (to prevent churn) and subsequently affecting their desires (to develop loyalty). This is what the industry calls "customer experience management."

The authors Nandan and Hines (2012) assert that many partners and product vendors add to the complexity by positioning their products around CEM. Even if this were true, it can affect only a limited set of processes or system KPIs, generating the false impression that the CSP is undertaking CEM. The complexities and resultant challenges can be summarized as shown in the table below:

Challenges	Implications
What is customer experience – Business View (Marketing) / Systems View (KPIs) / Customer Views (Surveys) / Customer Perception	Unscientific methodology for Customer Experience: Fragmented or Bottom-Up Approach.
Which department has a role in customer experience management - who should do what and to what extent?	The focus invariably shifts to one or two departments (e.g. Customer Care).
More than a dozen systems impact customer experience. What is the role and importance of each?	The focus invariably shifts to one or two systems (e.g. Contact Centre or Self-Care).
Where does a CSP start and where should it invest first? How to benchmark?	Uncoordinated effort and Fragmented upgrades of systems and processes, No Real Benchmark.
How much investment is justified and how do you prepare the organization for customer experience readiness?	Haphazard Approach/Product- Centric Investments.

**Table 3 Top Challenges and Implications for CSPs**

Source: TCS Customer Experience Management Framework by Nandan and Hines (2012)

Currently, there is a lack of a baseline on CEM that a CSP can use to design its own program. Furthermore, the subjectivity involved in CEM can easily push effort in a direction to address the organization's view instead of a customer's perception, and any CEM program that doesn't address the customer's perception is, at best, only a cosmetic effort.

The authors Nandan and Hines (2012) advise that designing programs such as CEM requires a certain level of top-down abstraction. The abstraction is required to measure customer experience, map these measures to various processes and applications within the CSP operations, and then manage them. For a long time, the standard functional breakdown and organizational structure have been used to address needs and deliver the promised product or service. Yet, the complexities of operations and underlying processes create scenarios for failure more often than anticipated. Thus, for CEM, the abstraction should be done by dividing the areas of experience as per the customer lifecycle. Interactions with CSP representatives (for example, marketing or customer care), procurement experience, service experience (different for retail and enterprise customers), customer care experience, billing and payment experience, and so on.

The authors Nandan and Hines (2012) of the TCS Customer Experience Management Framework (TCS, 2012) talk about the various customer lifecycle stages in telecom that impact customer experience and intend to improve the processes and business operations according to the eTOM and TAM models. The sum total of each of these experiences is referred to as the "total customer experience" being delivered by a CSP. Any measurement and management effort should begin right from the initiation of the customer lifecycle and should cover all aspects of CSP-customer interactions and transactions, both from the need and desire perspectives.

Figure 3: Customer Experience in Totality
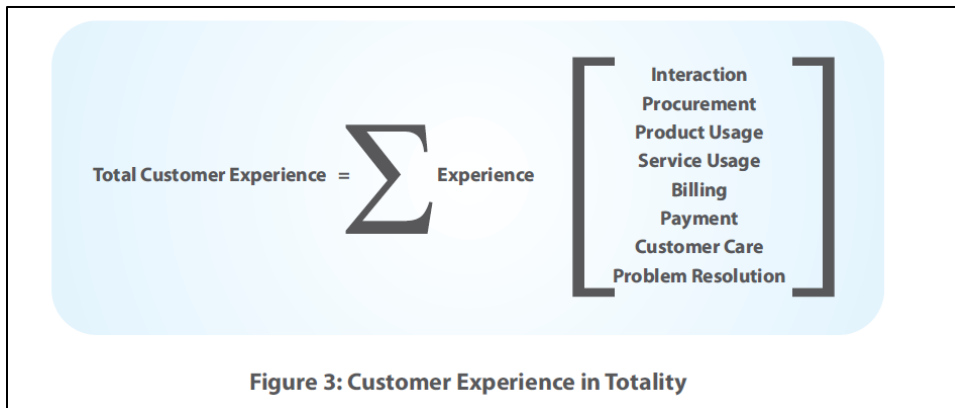
Figure 6 Customer Experience in Totality

Source: TCS Customer Experience Management Framework by Nandan and Hines (2012)

Total Customer Experience = Sum of the below

- Interaction
- Procurement
- Product Usage
- Service Usage
- Billing
- Payment Customer Care
- Problem Resolution

The sum total of each of these experiences is referred to as the "total customer experience" being delivered by a CSP. Any measurement and management effort should begin right from the initiation of the customer lifecycle and should cover all aspects of the CSP—customer interactions and transactions—both from the need and desire perspectives. (Nandan and Hines, 2012)

The authors Nandan and Hines (2012) explain that with the discovery and prioritization of the areas of importance of the customer experience for a CSP, the first level of simplification is achieved. This provides a top-level functional break-up of CEM from a customer lifecycle perspective, and from here, a top-down construct can be developed. This construct should be dependent on the areas of operations of the CSP (e.g., fixed line, mobile), focused market segments (e.g., retail, enterprise), and geographical spread of customers (e.g., metro, urban, rural), apart from the usual business functions such as marketing, sales, order management, fulfillment, and assurance.

Each of these experience areas lends itself to certain mediums or channels through which the customer interacts with the CSP. For example, a mobile phone is a big channel or medium of CSP-customer interaction and transaction in a mobile retail CSP operation scenario. Similarly, the CSP's website and self-care portal are other mediums of CSP-customer interaction. For a granular and analytical framework, each of the channels of each identified experience area should be uncovered for analysis. For the sake of further simplification, one can even divide the identified channels or mediums into multiple types as appropriate. (Nandan and Hines, 2012)

The authors Nandan and Hines (2012) summarize that tackling CEM in a way that is aligned to various experience areas for a customer allows the development of an analytical method for planning and execution. Using the concept, a CEM construct, as detailed in this paper, can be developed for a CSP and used for periodic assessment and continuous improvement. It may be compared to an evolving maturity model used by quality assurance programs. Such a CEM construct can address the identification of areas of good and bad experience, help prioritize investments in CE programs in line with larger business strategies, and address problems in the essential processes and applications that help run the business.

The authors Nandan and Hines (2012) conclude that the TCS Customer Experience Management Framework's top-down approach automatically distributes responsibility across the organization, making everybody responsible for factors affecting customers. Thus, the approach avoids changes in the organization's structure unless functionally warranted. A CEM champion is recommended. CEM program execution can become part of ongoing business operations, and CSPs can use the customer experience measure as one of their key performance indicators.

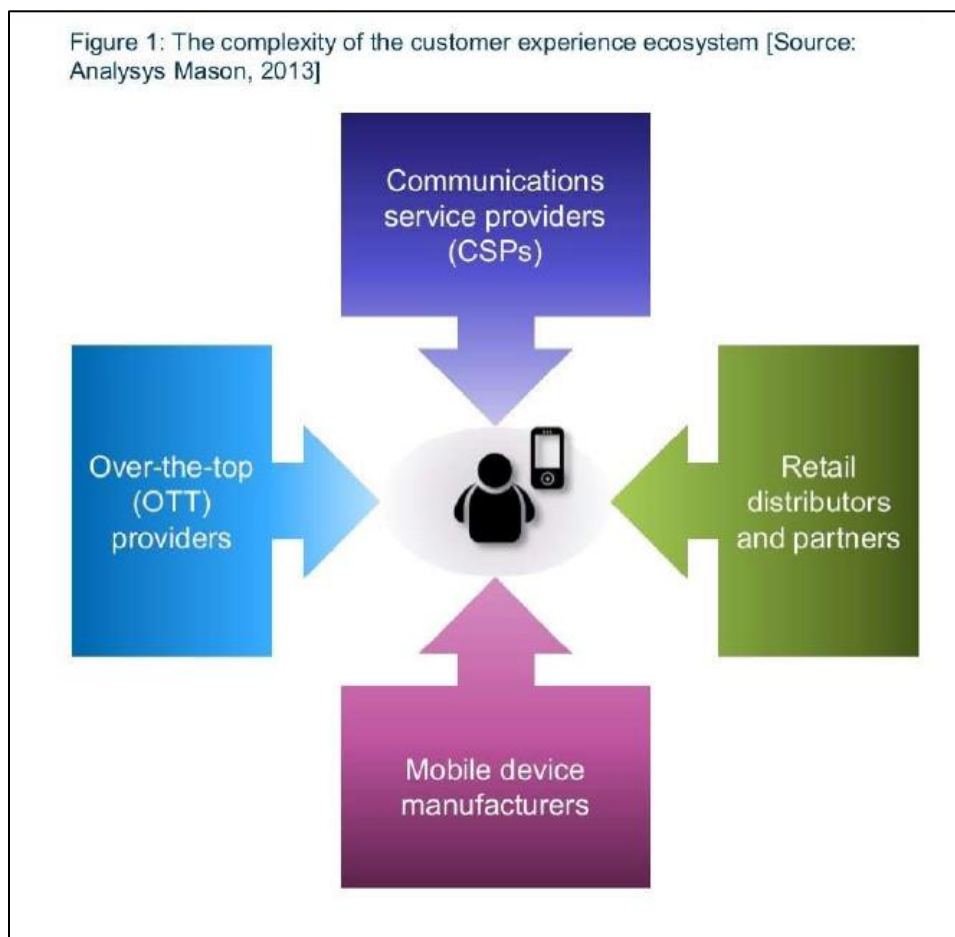**2.1.7.4 Analysis Mason Framework by (Analysis Mason, 2012):**

The systems to measure customer interactions must be capable of providing relevant key performance metrics, which each employee in the organization can use to improve processes and ultimately impress the customer. In order for a communications service provider (CSP) to assess the customer experience, each interaction with the customer must be managed, particularly where the customer evaluates, orders, uses, and makes payments for the product or service. In each case, the contact points and the ability to measure the experience are core components of the service offer. (Analysis Mason, 2012).

In the Analysis Mason Framework, the authors Kelly and Rao (2013) define customer experience management as the ability to understand the needs of customers and translate that understanding into solutions. In the telecom market, the focus is on the delivery, support, and billing of voice, video, and application data. Customer experience management processes must:

- Listen to the voice of the customer (for example, through one-on-one interviews, surveys, and social media)
- Identify problems
- Resolve problems and issues
- Track and monitor progress at each customer touchpoint.
- Assess business impact (via metrics like net promoter score (NPS), churn, and revenue growth).

The authors Kelly and Rao (2013) in Analysis Mason Framework, state that customer experience metrics must measure and report on three phases of the customer lifecycle:

- Join – the process of ordering a service
- On-board – the process of activating and training the customer to use the service
- Support – the process of resolving problems in the delivery of services including accurate billing.

Figure 1: The complexity of the customer experience ecosystem [Source: Analysys Mason, 2013]

Figure 7 The complexity of the customer experience ecosystem

Source: Analysis Mason Framework by (Analysis Mason, 2012)

The authors Kelly and Rao (2013) further state that customer experience measurement can be divided into two broad communication categories. Service providers Outside-in: NPS and customer satisfaction surveys (CSPs) measure and report customers' perceptions of products and services. Such KPIs are indicators of the propensity to churn. Over-the-top retail and the influences customers have on others to join or leave (OTT) distributors, partners, and providers. Inside-out: Examples include order-to-provision, first-contact resolution, long-tail re-callers (for example, more mobile devices than three calls), and churn-rate metrics.

The (Analysis Mason, 2012) report provides a management framework for developing a positive customer experience, uses case studies of operators implementing customer experience management (CEM) in their businesses, provides an analysis of the core competencies of vendors that provide CEM solutions, and makes recommendations for CSPs that are deploying CEM solutions.

Analysis Mason (2012) further talks about the gap between customers' and suppliers' perceptions about servicer delivery. It shows that NPS and internal benchmarking indices can improve how cellular service provider employees interact with customers. It also shows that customers form perceptions when they interact with employees, IT systems, and services at different lifecycle phases, including:

- Commitment phase
- Order to fulfilment phase
- Service Delivery
- Accuracy of Bills
- The quality of service
- Availability of service

Analysis Mason (2012) further states that the customer lifecycle journey comprises five phases, but long-term relationships are influenced by the join, on-board, and support phases.

The activities in the customer lifecycle are listed below:

- Inquire and evaluate – Online, window shop, talk to family/friends
- Join – Technician visits home, go to store, self-serve Renew
- On-board– Set up services, payment, training
- Support– Web chat, online communities, call centre
- Renew– Proactive contact, confirm, promote relevant new offers

Analysis Mason (2012) recommends the following five key principles for improving the customer experience:

- **Improve customer intimacy:** CSPs must drive a change in the organization to put the customer first. Intimacy requires an understanding of how the customer feels and rates each interaction in the relationship. The business outcome is that customers start promoting products and services.
- **Reduce churn:** Reduce customer churn by focusing on operational improvements in call centers and service monitoring. The business outcome is higher NPS and increased profit.
- **Offer the customer choices to interact:** Customers prefer self-service support via many channels (such as web chat or mobile). CSPs should implement a multi-channel approach. The business outcome is that the cost of support will decrease.
- **Get it right the first time:** CSPs should clearly articulate the offer, fulfill the order once, and solve the problem quickly. The business outcome is that the quality of service will improve and the cost of support will decline.

- **Keep it simple:** Services are becoming more complex. CSPs must ensure that departments and partners effectively collaborate. The business outcome is that revenue will increase and the cost per transaction will decrease.

Finally, the Analysis Mason Framework authors Kelly and Rao (2013) recommend the following points for developing a positive customer experience:

- CSPs should understand the business outcomes of customer experience management in specific areas of their business before investing. For example, focusing on call-center operational improvements and service monitoring can reduce customer churn by 50 basis points (0.5%).
- Identify specific customer experience measurement points in the join, on-board, and support phases and develop an implementation plan that achieves specific improvements in 3 months.
- Correlate business outcomes such as NPS and customer retention performance results with changes implemented with internal systems in the join, on-board, and support phases.
- Select suppliers that have demonstrated successful deployments with clients that sell similar products and services.
- Avoid putting too much weight on NPSs and balance customer feedback with one-on-one interviews and other feedback techniques, such as surveys sent via text message.
- Increase lock-in. Mobile CSPs can reduce churn by increasing the strength of their link to subscribers—for example, by encouraging take-up of service bundles, multi-device tariffs, group or family plans, and longer contracts. This is probably the most straightforward strategy and the one with the most obvious appeal.
- Increase customer satisfaction. Poor customer care is often cited as a major cause of churn. Improving customer care can potentially reduce the direct

costs of retention (device subsidies and tariff discounts) by 30–40% in comparison with price discounting alone.

- Introduce reward schemes. Schemes such as top-up rewards and points-based and event-based offers have a part to play in reducing churn, although imitation offers from competing CSPs dilute their impact.

2.1.7.5 Amdocs Customer Experience Framework by (Domb et al., 2015) :

The authors Domb et al. (2015), state that the operators are focusing on subscriber quality and that companies are increasingly betting their money on cherishing and nurturing existing customers so as to win customer loyalty and build sustainable competitive differentiation. As a result, there is a rising need to have a yardstick to measure customer experience at all stages of the customer life cycle. The customer experience involves total participation during the customer lifecycle, including the search, consumption, purchase, and after-sale phases of the experience, measured against the customer expectations, which will eventually augment customer retention and loyalty, conclusively affecting the business value. (Domb et al., 2015)

In the Amdocs Customer Experience Framework, Domb et al. (2015) measure the customer experience index for all the possible interactions that customers have with CSPs and then collate these measures to form a composite customer experience management index, which they call the Amdocs Customer Experience Index (ACEI).

The authors Domb et al. (2015), define the Amdocs Customer Experience Index (ACEI) as a measure of the overall experience customers have with their cellular service providers, calculated on a scale of 1 to 10. ACEI is designed to be deployed across various lines of business, geographies, and demographics. It is a theory developed with strong academic backing and proven by statistical rigor to introduce an industry benchmark to measure customer experience at all possible touch points of customer interaction with the operator.

The determinants of the customer experience as per authors Domb et al. (2015) include:

- Brand Image
- Service delivery experience
- Network experience
- Customer care experience
- Store and gallery experience
- Billing and Self-service experience

Let's look at each of Domb et al. (2015)'s determinants of the customer experience in detail:

- **Brand Image**

    As per Domb et al. (2015), the importance of brand as a driver for customer experience was reinforced when a framework for customer experience was designed that contained three higher-level constructs for customer experience, brand image being one of them. Brand image is the embodiment of the CE, and brand is the most important driver for the CE as it sets the scene before any sort of interaction with the customer. Telecom senior executives are making customer experience management a central priority as they have begun to understand the importance of delivering on brand promises to retain subscriber bases. Improved brand perception can lead to reduced churn and new subscriber acquisitions.

- **Service Delivery Experience**

As per Domb et al. (2015), service delivery in telecommunications encompasses the service and support system and the ability to resolve any performance and technical issues. They further mention quality service delivery and emphasize that management of service delivery in telecom can be done by handling the quality gap between customer expectations and perceptions. Quality service delivery has been considered the key driver for loyalty. Further research revealed a strong link between customer experience and service delivery. In wireless communication, service delivery should be instantaneous and uninterrupted for an experience to be created. Thus, services help create a social bond with the customer, which in turn helps enhance the customer experience.

- **Network experience**

As per Domb et al. (2015), the network forms the backbone of all the services offered to the users. Telcos are continuously interacting and reaching their customers through the networks. Most experiences are created here. The mobile network is one of the most frequent and important points of contact between the customer and the operator, and it is regarded as a key driver in increasing overall satisfaction with the cellular service provider. The authors further talk about the network-centric approach of operators and recommend that they focus on key parameters such as accessibility, integrity, and retention ability to create an optimum customer experience. Because network experience is an essential component of customer experience transformation, operators must prioritize service quality and monitor it on a regular basis.

- **Customer care experience**

  As per Domb et al. (2015), a customer mostly considers post-sales services as the most important parameter to be loyal; thus, customer care and how their complaints are handled become a significant parameter to enhance the customer experience. To elaborate, numerous studies have been conducted outlining this very fact. It has been concluded that better customer care leads to higher customer satisfaction and loyalty. Also, customer care can lead to higher customer acquisition and retention. The authors Domb et al. (2015), further state that an enhanced customer care experience is the key to higher customer retention, leading to higher customer loyalty and a lower churn rate.

- **Store and gallery experience**

  As per Domb et al. (2015), retailers need to understand how consumer behavior evolves and the consequences of these changes on consumer expectations inside and outside the retail location. The new consumer evaluation model for CSPs concluded that stores with a more soothing and relaxed ambience are preferred by customers, which leads to an enhanced customer experience. In the telecom operator business, an enhanced store and gallery experience is one of the most important parameters leading to an enhanced customer experience and higher customer acquisition and retention.

- **Billing**

  As per Domb et al. (2015), a better and more efficient billing experience makes the customer feel secure and leads to higher customer loyalty. A full-proof and secure billing experience leads to higher customer retention.

- **Self-service experience**

As per Domb et al. (2015), web self-services give Telco users access to critical information such as account details, billing, and usage data. Web self-services are new channels that are used by the communication industry to neutralize customer management costs and create a "self-service only" operation, but they are not self-sustaining and have to coexist with other channels for a better customer experience. Customers must be guided through self-service channels and customer support representatives to relevant products and services, and their experiences must be managed.

Domb et al. (2015)'s Amdocs Customer Experience Framework (ACEF) model is as under:
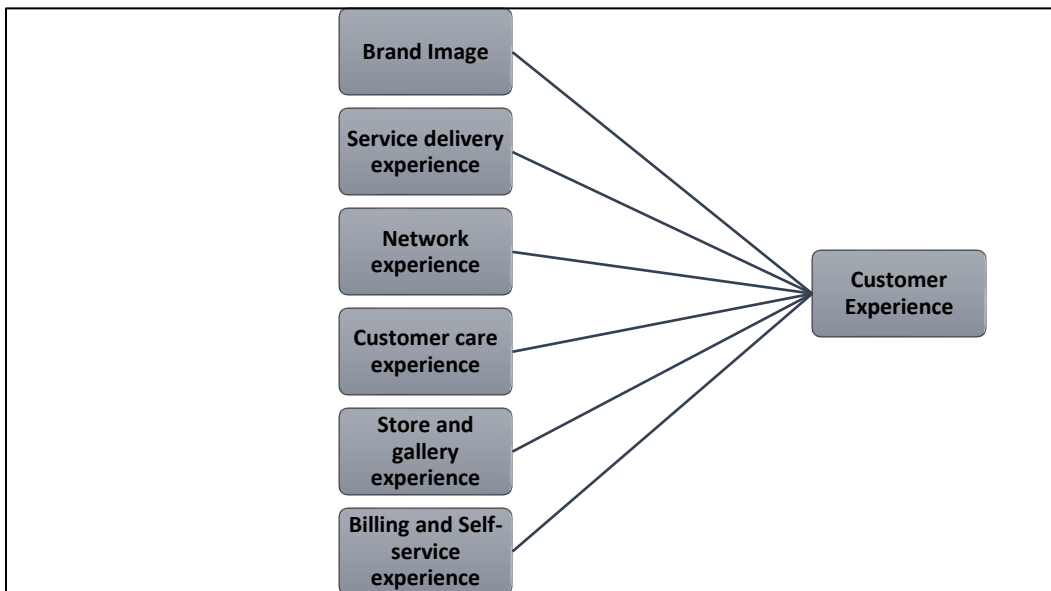
Figure 8 Amdocs Customer Experience Framework (ACEF) model

Source: Domb et al. (2015)

The authors Domb et al. (2015), conclude that customer experience is very difficult to quantify; however, Amdocs' Customer Experience Index (ACEI) score attempts to provide a yardstick to quantify customer experience in the telecom industry, which can be implemented as an industry benchmark to measure customer experience delivered by service providers. This can be used by telecom service providers in mature markets such as India, where the quality of service delivered to end customers can be the primary differentiator between operators. It provides a holistic view of measuring quality of service across all the touch points of customer interactions, narrowed down into six main dimensions. For a telecom operator to improve the customer experience, these parameters need to be considered as the focus points.

Compared to all the above-listed frameworks, Domb et al. (2015) claim the advantages of the Amdocs Customer Experience Framework (ACEF) as below:

1. ACEF is more in-depth because customer perception is taken into consideration through a large-scale market research survey of a large volume of customers.
2. ACEF tries to highlight the outside-in views for various KPIs to build a more robust and customer-centric framework.
3. It takes into account both the importance and performance of all the parameters, thereby helping in the identification of gaps.
4. The framework measures the customer experience index for all the possible interactions that customers have with CSPs and then collates these measures to form a composite customer experience management index.

2.1.8 Literature Review for the solution proposed

The research aims to provide practical solutions to improve the customer experience, as well as the key enhancements required to implement the solution that the Indian telecom sector must do in order to provide an all-encompassing customer experience.

Three practical solutions and their corresponding key enhancements needed to be implemented by Indian telecom operators, listed below, were identified by this research as "pro-active customer care," "local language customization," and "special day delights."

The remainder of the literature review will delve into each of the solutions, their existing literature, and their applicability to the Indian telecom sector.

2.1.8.1 Pro-active customer Care

Proactive care is primarily a manufacturing and healthcare concept. The authors (Hu et al., 2019) note that healthcare is a limited resource environment where scarce capacity is often reserved for the most severe patients. However, there has been a growing interest in the use of preventive care to provide treatment to patients early on, before they deteriorate. On one hand, providing care for patients when they are less critical could mean that fewer resources are needed to return them to a healthy, stable state. On the other hand, utilizing limited capacity for patients who may never need care in the future takes capacity away from other, more critically ill patients who need it now. Proactive care, with the help of the predictive models, can help reduce treatment delays and improve patient outcomes.

Proactive service models have found use in a variety of settings. BetterCloud, a tech company that was featured on the 2017 Forbes' Next Billion Dollar Startups list is a great example of a company that uses proactive service to address errors encountered by IT administrators as quickly as possible. Or, as (Hyken, 2016) mentions, "instead of waiting for the customer to come to BetterCloud for help, the customer service team contacts customers."

Another use, as mentioned by Bonnet et al. (2014), is in the specific situation of repair and maintenance in General Electric's (GE) OnWatch service. As GE explains, OnWatch provides fully automated and continuous monitoring of critical healthcare infrastructure systems such as computed tomography and magnetic resonance imaging scanners. Any deviations alert GE engineers, who work with customers to repair the equipment with minimal disruption to operations.

As emphasized by Delana et al. (2021), as part of manufacturing and service operations management, the potential benefit of proactive service is clear: at least some customers will be served at an opportune time for the server, e.g., when the server would have otherwise been idle. Naturally, this eliminates waiting time for any proactively served customers. Furthermore, even customers who are not served proactively could benefit: by serving some customers proactively, the system reduces congestion, and everyone else arriving in the system would experience, on average, shorter waiting times.

The authors Delana et al. (2021), further conclude that, from an operational perspective, we find that proactive service can substantially reduce delays for both flexible and inflexible customers. This is the case even if the proportion of flexible customers is limited and the information lead-time is relatively short, and even if proactive service ends

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up serving a moderate proportion of customers that would otherwise not have needed the service.

Proactive service has long been considered in manufacturing settings where preventative maintenance effectively reduces the demand for future repair services. (McCall, 1965) There are very few works on proactive care in the telecom industry.

The telecom management framework adopted from the TM Forum (2017) contains three horizontal layers: resource, service, and customer, spanning across two vertical perspectives: infrastructure, product, and operations.

As per the author Chen (2016), the service layer includes activities related to the provisioning of user services (voice, data, and video). It also supports proactive monitoring and reactive diagnostics required by service-level agreements, a contractual agreement between the operator and the users on the performance and availability of the subscribed services. Proactive customer care resolves issues the users may experience before they even know it by constantly monitoring the users' quality of experience (QoE).

The author Chen (2016), further states that at the network resource layer, proactive customer care helps to locate problematic areas in the networks and plan for reconfiguration or upgrade to improve the performance. Accurate measurement of customer QoE can help operators predict customer churn and identify customers for service upgrades or targeted marketing.

The author Chen (2016), concludes that proactive customer experience management is the single biggest opportunity for data analytics applications, and accurate

measurement of customer QoE can help operators predict customer churn and identify customers for service upgrades or targeted marketing.

However, proactive customer care is conspicuously missing in the telecom markets worldwide in general and in India in particular.

2.1.8.2 Local language customization

The author O'Donnell (1994), in his prominent book "Programming for the World." a guide to internationalization," note that in contemporary times of globalization, there are increasing pressures on developers to create internationalized software that can be used in different settings.

There are two broad approaches to this problem of internationalization. One, software is developed from the outset to be used in varying international settings, and internationalization is incorporated as an element of the software development cycle. In the second approach, software is developed for local settings, as internationalization is not considered a predefined aim but is subsequently attempted to be adapted and customized to different national situations. (Braa and Hedberg, 2002)

The authors Nhampossa and Sahay (2005), use this basis to emphasize that the development process in the first approach is very resource-intensive because the application must include functionalities for different languages and cultural contexts of use. Also, since the context of use is always changing, there is continued pressure on the development agency to acquire new knowledge and incorporate it in the newer versions of their application. In the second approach, while the development process is initially

not so resource intensive, there are other pressures relating to individual customization efforts in each context, raising the potential danger of "reinventing the wheel."

What is required is a compromise between these approaches, or "pragmatic balance," where the focus is to try and distinguish between context-dependent and independent components, globalize the independent parts, and focus on the dependent parts for local customization. (Rolland and Monteiro, 2002)

In his book "Language, Power, and Software," the author Keniston (2001), explains that localization entails adapting software written in one language for members of one culture to another language for members of another culture. It is sometimes thought to be simply a matter of translation. In fact, it involves not only the translation of individual words but deeper modifications of computer codes involving scrolling patterns, character sets, box sizes, dates, dictionary search patterns, icons, etc. Arabic and Hebrew scroll from right to left, unlike the North European languages. Russian, Greek, Persian, and Hindi involve non-Roman character sets. Ideographic, non-phonetic written languages like Chinese and Japanese involve tens of thousands of distinct characters.

The author Keniston (2001), further notes that localization involves more than simple translation. Scrolling patterns, character sets, box sizes, dates, and icons must be adapted to the new language and the culture in which it is spoken. As one observer has noted with regard to computer icons, there is no gesture of the human hand that is not obscene in some languages. As others have noted, the color red, which indicates "stop" or "danger" in the US, may indicate life or hope in another culture.

Although localization is ordinarily seen as primarily a technical task, the localizer must not only be an experienced code writer but also have thorough knowledge of two languages and, ideally, of two cultures. Even localization from one North European

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language to another (e.g., from English to Spanish) requires good coding ability together with knowledge of the subtleties of both languages. (Keniston, 2001)

The market demands the use of products in a large variety of languages. This is especially true for the software market, where the product itself consists nearly exclusively of localizable information. Translation and customization of software involve a variety of specialists, such as programmers, translators, localization engineers, quality assurance (QA) specialists, and project managers. Localization of complex software is difficult and time-consuming without specialized tools, and it frequently involves the same task being uselessly repeated over and over again. (Hau and Aparício, 2008)

The authors Hau and Aparício (2008), explain that in computing, internationalization and localization are means of adapting computer software for non-native environments, especially other nations, cultures, and environments. Internationalization and localization together comprise a complete process that makes the adaptation of a product line for a different linguistic and cultural locale cost-effective and successful. The better internationalized an application is, the easier it is to localize. This is because a well-internationalized application will have built-in support to cater to items that are needed for localization.

As per Hoe (2006), internationalization is an engineering process whose objective is optimizing the design of products so that they can be more easily adapted for delivery in different languages and in locales with different cultural requirements (localization). Internationalization is a precursor to localization, and its purpose is both to lower the effort and cost of localization and translation and to increase the speed and accuracy with which localization can be accomplished.

The author Hoe (2006), further explains localization as the process of preparing locale-specific versions of a product and explains that it consists of the translation of textual

material into the language and textual conventions of the target locale and the adaptation of non-textual materials and delivery mechanisms to take into account the cultural requirements of that locale. Localization is currently one of the fastest-growing sectors of the international economy. Localization vendors provide critical international business services such as web-page translation and software localization.

As a result, as Hau and Aparício (2008) conclude, localization is the modification of a software product to meet the requirements of a specific market, or locale. This adaptation does not include only the translation of the user interface but also the integration of the appropriate keyboard driver and input methods. It must also take care of local conventions like date, time, currency, and number representation formats; collating sequence; perhaps spelling, hyphenation, grammar, and syntax rules; ordering, sorting, searching, and matching rules; as well as local peculiarities about the use of color, sound, and symbols.

India has 22 officially recognized languages: Assamese, Bengali, English, Gujarati, Hindi, Kannada, Kashmiri, Konkani, Malayalam, Manipuri, Marathi, Nepali, Oriya, Punjabi, Sanskrit, Tamil, Telugu, Urdu, Bodo, Maithili, Dogri, and Santhali. If a web application developed for the American or any other community has to be localized for the Indian community, it needs to be localized for at least 22 languages. (Karande et al., 2007)

Localization of web applications is very necessary for every non-English-speaking country. Localization of web applications in India has more problems than any other country due to the multilingual culture of the country. Few people have tried to localize web applications to Indian languages, but 100% localization is not possible. Existing frameworks take care of static text only. Also, the existing framework does not consider multilingual software development. The proposed model will aid in the localization of web applications while requiring minimal human intervention. (Karande et al., 2007)

To conclude, web sites have traditionally been developed for the English-speaking community, with only a few attempts to develop web sites for other languages. The same is true for the Indian telecom sector, where the telecom operator's website and applications are only available in five Indian languages other than English.

2.1.8.3 Special day delights

Professor Theodore Levitt, a legendary marketing scholar and former Harvard Business Review editor, suggested that as the economy becomes more service- and technology-oriented, a lengthy and involved relationship between buyers and sellers would be increasingly necessary. (Levitt, 1983)

The benefits of relationship marketing stem from the continued patronage of committed customers who are not price-sensitive over time, resulting in a reduction in marketing costs and an increase in overall profitability. The behavior of committed hotel clients includes spreading positive word of mouth, making business referrals, providing references and publicity, and serving on advisory boards. (Bowen and Shoemaker, 2003)

The authors Bowen and Shoemaker (2003), further state that traditional marketing has not been able to explain the paradigm shift toward continuing relationships between customers and firms. The hotel industry's relationship marketing strategies have focused on transactional tactics such as gifts for repeat guests and familiarization tours for meeting planners (Bowen & Shoemaker, 1998).

As per Gilbert (1996), another sector, i.e., the airline industry, was the first to adopt relationship marketing plans that aimed to bond customers to brands through specific loyalty programs. However, because of the large number of similar programs, the base of frequent traveler programs has become so generalized that frequent flyer programs now

provide fewer returns. The evidence to date shows that once frequent flyer programs are established, it is extremely difficult to discontinue them. Airlines are also facing new challenges to develop more sophisticated relationship marketing strategies to improve their profitability and effectiveness.

The authors Kim et al. (2001), emphasize that consistent communication through hotel newsletters, direct mail, and telemarketing services is related to customer service, and it is important to keep the communication channels between loyal customers and hotels open. Sending thank-you letters and birthday cards is an effective after-service marketing tool.

The authors Kim et al. (2001), further state that guest commitment results in a positive relationship with performance measures. Guests who are more committed to and have deeper trust in hotel service providers are more likely to revisit a hotel and spread positive word of mouth.

The authors Gillenson et al. (1999), note that until recently, one-to-one marketing, the ability to sell targeted goods to an individual based on their known or perceived needs, was not possible for most product types on a mass basis. However, recent advances in information technology, including the Internet and its World Wide Web, database management systems, computer graphics, and electronic mail, as well as increased processor speeds, now permit one-to-one marketing on a mass basis over the Web.

The authors Gillenson et al. (1999), further add that business-to-consumer e-commerce led to a rebirth of the concept of personalized or one-to-one marketing, this time on a mass scale. It is not a new concept. It is what storekeepers did with their regular customers for as long as there were small towns or neighborhood stores. But the advent of automobiles, suburbia, department stores, superstores, shopping malls, and the like largely turned personalized marketing into a historical relic.

An important issue for a company is how to obtain demographic and interest data from the customer. The company must make an effort to induce the consumer to give it this type of personal data. Of course, if a person understands and buys into the consumer benefits of one-to-one marketing, then she perceives that she is making a valuable investment in teaching the company about herself and readily turns over the data. Otherwise, the hope is that consumers will be interested in the inducements that the company gives them to yield the data. (Peterson et al., 1997)

However, none of India's telecom operators provides "special day delights" to their mobile customers on their birthdays or anniversaries.

2.2 Summary - The Gap in the Knowledge

Through the literature review, I can conclude that there have been various attempts to define and conceptualize customer experience, as well as to understand its interactions with a range of variables; nevertheless, telecom customer experience management has been understood as a vaguely defined concept. It has resulted in many researchers focusing on different dimensions of the customer experience, but there has never been a consistent framework or set of suggestions for managing the customer experience. As a result, branches of customer experience management emerged. Theoretical frameworks are still in the process of being developed and evaluated. The majority of the studies are from industry, with only a few scientific studies.

Also, as seen above, various models exist for customer experience in the telecom space; however, very few suggestions for enhancing customer experience exist. The proposed research aims to provide practical suggestions for enhancing the customer experience in the Indian telecom sector. Especially when in the telecom industry, customer experience is a sustainable differentiator as it puts the customer in the middle of the process of product and service development.

This lack of knowledge led this research to explore questions that are seeking an answer to enhance the customer experience in the Indian telecom sector.

CHAPTER III:
METHODOLOGY

3.1 Overview of the Research Problem

The research seeks to determine the key factors responsible for influencing the enhanced customer experience in the Indian telecom sector and practical solutions that will help elevate the customer experience in the Indian telecom sector.

The authors (Cameron and Price, 2009) explain "The research strategy as the study perspective on the nature of the data needed to provide the predetermined research objectives adequately. Practically, it determines the nature of the empirical techniques that the research is going to implement for the extraction of credible data. Ordinarily, a distinction can be made between two schools of thought, quantitative research strategies on the one hand, and qualitative research methods on the other. Often studies may combine the two approaches, but in practice, quantitative research strategy stresses numerical information collection and factual investigation, and qualitative research strategy stresses verbal attempts to break down and express relationships, patterns, and circumstances, instead of mathematical processing of data."

As per the authors (Schreiber et al., 2000), a methodological discussion is typically built in the shape of a pyramid, which means that it begins broadly and gradually becomes more specific and concise, with each layer supporting and directly related to the previous layer. The methodological foundations are intended to position the research between different points of view regarding the relationship between the theoretical field and practical aspects, as well as to identify a solid set of tools that match the research's predetermined objectives in order to assist it in fulfilling its purpose at all stages.

The main components of how the research will be conducted, the guiding principles, and the nature and philosophy of the research will all be articulated in this area. This section will address research design, research population and sampling, data collection methods and instruments, data analysis methods, the research period, the timeline for completion of the research, and ethical considerations.

Based on the principles of the "onion model" suggested by Saunders (2014), this chapter will in a systematic way demonstrate the methodological components that have been distinctively formulated into a consistent practical framework in order to serve the achievement of the research's predetermined objectives.

3.2 Research Purpose and Questions

The long-term goal of the research is to increase knowledge of customer experience techniques and eventually mobilize resources from India's cellular service providers to be used in the development of a consistent framework for involving customers and managing their experiences.

The research questions, this research sought to investigate were:

- What are the key **determinants or factors responsible for influencing** enhanced customer experience in the Indian telecom sector**?**
- What are the **practical solutions** that can be applied to existing frameworks and will help elevate the customer experience in the Indian telecom sector?
- What are the **key enhancements needed to implement the solution** that the Indian telecom sector must do to have an all-encompassing customer experience?

3.3 Research Design

Saunders (2014) defines research design as the general plan of how you will go about answering your research question(s).

This research will use a qualitative research method to enable an in-depth investigation in order to identify the key factors responsible for enhanced customer experience in the Indian telecom sector.

For data collection and analysis, the proposed research will use a descriptive research design that allows Indian cellular users to identify the main factors they use when selecting or switching from a telecom service provider.

The survey strategy will be implemented in order to achieve the project's defined objectives. A customized internet questionnaire will be used to collect primary data. The research would be based on primary data collected directly from the participants, i.e., Indian cellular users, via structured questionnaires.

3.4 Population and Sample

According to Saunders (2014), Sampling techniques provide a range of methods that enable you to reduce the amount of data you need to collect by considering only data from a sub-group rather than all possible cases or elements.

For this research, the target population will be Indian cellular users. Since there are a large number of them, a sample is required for the research. As per the author Derfuß (2015), sampling consists of drawing a subset of the research population to act as a representative.

The sample size calculation is the same as that of SSBM's recently published thesis by Dr. Kishore Kunal, "Impact Of AI On Customer Service Retention: A Behavioral Perspective Of The Indian Mobile Market." (Kunal, 2016)

The same sample size calculator is used: https://www.calculator.net/sample-size-calculator.html

India's mobile user population is estimated to be 120 crores. The sample size calculator estimated a minimum sample size of 167 at a 99% confidence level and 10% margin of error. Based on this estimate, I fixed the sample size at 1002 (six times the minimum sample size). Hence, the data for the research was collected from 1062 customers, as sample has been selected, who were using mobile and asking for several services. The customers were selected randomly from across India. Also, the same calculator gives out the margin of error or confidence interval of observation or survey at 5.23%.

The research was conducted in India. In this research, a sample of 1062 Indian cellular users was selected. In order to reach the desired research population, I implemented a voluntary sampling method. In the research conclusions, the sample results were extended to the entire population.

3.5 Data collection methods and Instrumentation

As per the author Saunders (2014), the questionnaire is one of the most widely used data collection techniques within the survey strategy. Because each person (respondent) is asked to respond to the same set of questions, it provides an efficient way of collecting responses from a large sample prior to quantitative analysis.

As previously stated, the proposed research is qualitative and descriptive; hence, questionnaires are the primary method of data collection. The survey was conducted online and in English. All participants were educated about the purpose of the research before they receive and answer the structured questionnaire with closed-ended questions.

The respondent's privacy was maintained confidentially by being anonymous to promote participation and enable the collection of trustworthy data. All questionnaire replies will be kept strictly secret, and any data supplied will be aggregated or ranged in the dissertation.

The survey, which was finalized after the review above, consists of three areas:

1. Demographic Questions:

    As a foundational piece for this research's empirical analysis, the survey participants' demographic details that were subject to empirical studies are age, residential area, the prime purpose of your mobile usage, telecom operator, and associated duration with the telecom operator.

2. Determinants/factors responsible for influencing enhanced customer experience in the Indian telecom sector:

    The next set of questions in the survey was targeted to validate if the price is indeed a factor that impacts the customer experience in the Indian telecom sector and to what extent, in terms of frequency and amount of price hikes, it impacts the end mobile consumer.

3. Practical solutions that can be applied to existing frameworks and help elevate the customer experience in the Indian telecom sector:

    The next set of questions in the survey was targeted to provide practical solutions that can be applied to existing frameworks and help elevate the customer experience in the Indian telecom sector. Also, to determine the key enhancements, the Indian telecom sector must have an all-encompassing customer experience.

When the composition of the survey is summarized, it is as shown in the table below:

Table 4 Composition of the survey

Section	Variable	Number of Items
Demographic Questions	Age	4
	Residential Area	
	Purpose of mobile usage	
	Telecom Operator	
	Duration with Telecom Operator	
Determinants/factors responsible for influencing enhanced customer experience in the Indian telecom sector	Factors impacting telecom customer experience	3
	Frequency of price plan hikes mobile usage	
	Price difference per month which will trigger switching telecom operators	
Practical solutions that can be applied to existing frameworks and help elevate the customer experience in the Indian telecom sector		
Pro-active Customer Care	Received an alert before a network outage	4
	The notification time was sufficient to plan yourself	

	Advance notice required for the outage to be well prepared	
	Compensation expected for network outage loss	
Local Language Customization	Operator application and website support in your local language	4
	Lack of local language support affects your experience with a telecom operator	
	Prefer audio notifications in their native language instead of text notifications	
	Willing to pay less than 5% of your monthly bill to have your local language supported on the website/app	
Special Days Delights	Operators delight you in any way on special occasions such as birthdays and anniversaries	4
	Look forward to free services from your operator on your special days like Birthdays and Anniversary	
	Type of free services would you like to receive from your operator on your special days	
	Recommend the telecom operator to your friends/family if you availed above benefits on your special days	

3.6 Data Analysis

Pilot testing was done on the data collection instruments to ensure that they meet the research's validity and reliability requirements.

After gathering the necessary data for the research, the questionnaire data was quantitatively translated into statistics. This helped identify trends. These trends was then explored further to identify commonalities. I then followed the abductive approach and draw fitting conclusions related to the research.

3.7 Research period

To keep the research within a reasonable time limit so that it remains feasible and the results observed and presented remain valid, this research was completed over six months. The cumulative time of six months allowed me to collect data from the Indian cellular customers via the questionnaires, along with the needed data analysis, and pen down the conclusions.

The survey was commissioned and conducted online between July 2022 and January 2023.

3.8 Ethical Considerations

As per Jhangiani et al. (2015), a wide variety of ethical issues arise in psychological research. Thinking them through requires considering how each of the three core principles (respect for persons, concern for welfare, and justice) applies to each of the three groups of people (research participants, scientists, and society). Furthermore, Marczyk et al.

(2010) suggest that researchers are also expected to protect the privacy and dignity of the participants.

The participants' privacy will be respected in this research. I will make certain that the names of the participants and the information they supplied will not be shared with anyone who was not directly involved in the research.

Furthermore, all reference sources used in this research will be properly acknowledged.

3.9 Conclusion

The proposed research has a long-term goal of increasing knowledge of customer experience techniques and eventually mobilizing resources from India's cellular service providers to be used in developing a consistent framework for involving customers and managing their experiences.

CHAPTER IV:
RESULTS

The data was collected from 1062 mobile phone users across India to determine the key factors responsible for influencing the enhanced customer experience in the Indian telecom sector and practical solutions that will help elevate the customer experience in the Indian telecom sector. The participants were selected as per the methodology described in the research methodology chapter, and then their data was analyzed using descriptive and inferential statistics. The Chi-Square test was used to check the relationship between the individual practical solutions and telecom operators.

4.1 Analysis of Demographic Characteristics of Respondents

As a foundational piece for this research's empirical analysis, the survey participants' demographic details that were subject to empirical studies are

- age,
- residential area,
- the prime purpose of your mobile usage,
- telecom operator, and
- associated duration with the telecom operator.

The results of the 1062 survey participants have been organized in Table 5 below:

If the key findings of the frequency analysis are listed, they are as follows:

To begin with, the age was analyzed as:
- 149 people in the age group 12-18 years (14.03%)
- 368 people in the age group 18-30 years (34.65%)
- 397 people in the age group 30-50 years (37.38%)
- 148 people in the age group Above 50 years (13.94%)

Variable	Age of Respondents	Number of people
Age	30-50 years	397
	18-30 years	368
	Above 50 years	148
	12-18 years	149

Table 5 Age of Respondents (Source: Primary Data)
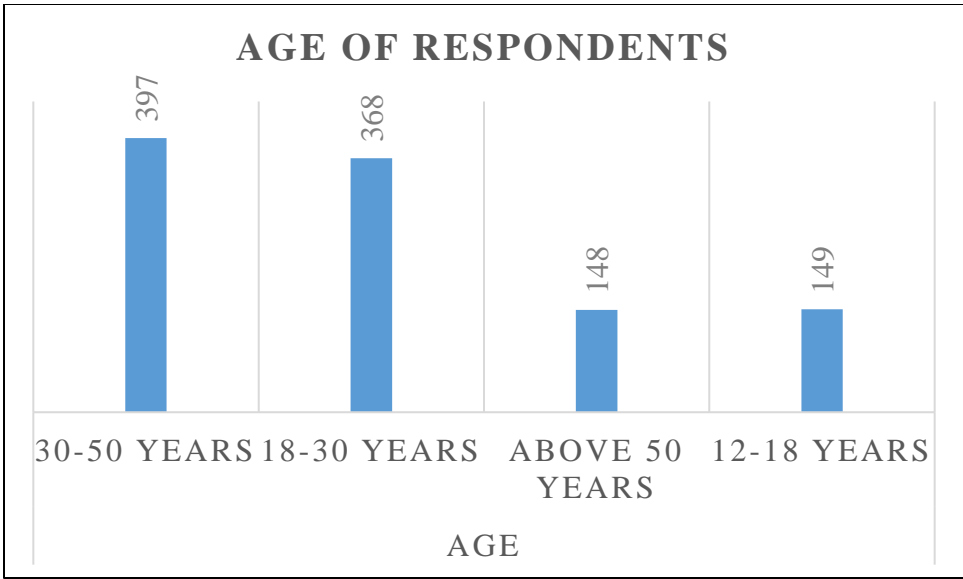
Figure 9 Age of Respondents (Source: Primary Data)

If I look at the residential areas:

- 474 are residents of Metro City (44.63%)
- 364 are residents of Town (34.27%)
- 164 are residents of District place (15.44%)
- 60 are residents of Village (5.65%)

Variable	Residential Area	Number of people
Residential Area	Metro City	474
	Town	364
	District place	164
	Village	60

Table 6 Residential Area (Source: Primary Data)
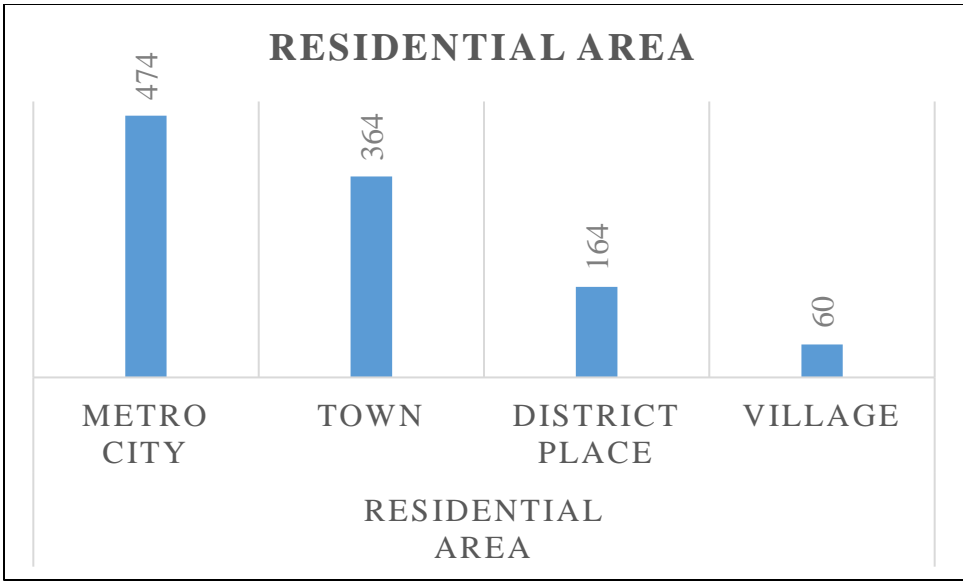
Figure 10 Residential Area (Source: Primary Data)

The prime purpose of the respondents' multiple-choice question about mobile usage was analyzed as follows: (Multiple – Choice Answers)

- 838 people (78.91%) used their phones for business.
- 426 people (40.11%) used mobile for social media.
- 214 people (20.15%) used their mobile phone for gaming.
- 188 people (17.70%) used their phones for schoolwork.

Variable	Purpose of Mobile Usage	Number of people
Purpose of mobile usage	Business	838
	Social Media	426
	Gaming	214
	Study	188

Table 7 Purpose of Mobile Usage (Source: Primary Data)

PURPOSE OF MOBILE USAGE

838 — BUSINESS
426 — SOCIAL MEDIA
214 — GAMING
188 — STUDY

PURPOSE OF MOBILE USAGE
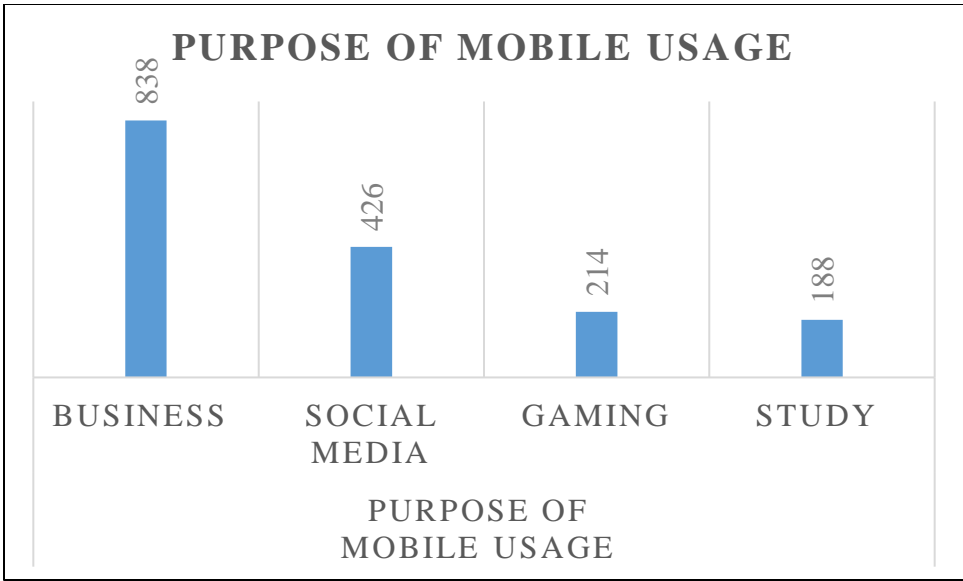
Figure 11 Purpose of Mobile Usage (Source: Primary Data)

A look at the telecom operator used by respondents revealed:

- 372 people used Jio as their telecom operator (35.03%)

- 340 people used Airtel as their telecom operator (32.02%)

- 305 people used Vodafone as their telecom operator (28.72%)

- 45 people used BSNL as their telecom operator (4.24%)

Variable	Telecom Operator Used	Number of people
Telecom Operator	Jio	372
	Airtel	340
	Vodafone	305
	BSNL	45

Table 8 Telecom Operator Used (Source: Primary Data)
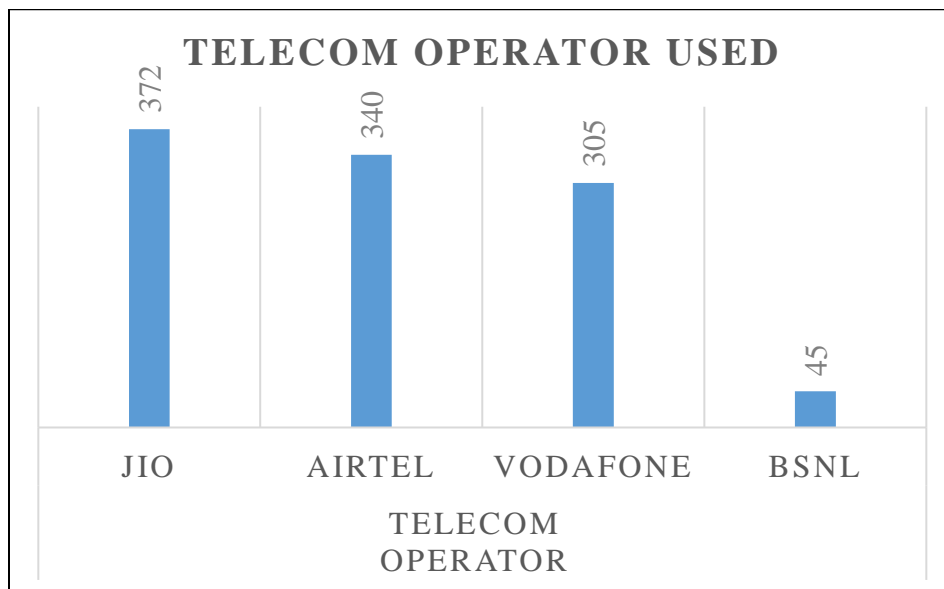
Figure 12 Telecom Operator Used (Source: Primary Data)

The respondents' associated duration with the telecom operator was analyzed as follows:

- 1-3 years for 419 people (39.45%)

- 6 months - 1 year for 365 people (34.37%)

- More than 3 years for 278 people (26.18%)

Variable	Duration with Telecom Operator	Number of people
Duration with Telecom Operator	1-3 years	419
	6 months - 1 year	365
	More than 3 years	278

Table 9 Duration with Telecom Operator (Source: Primary Data)
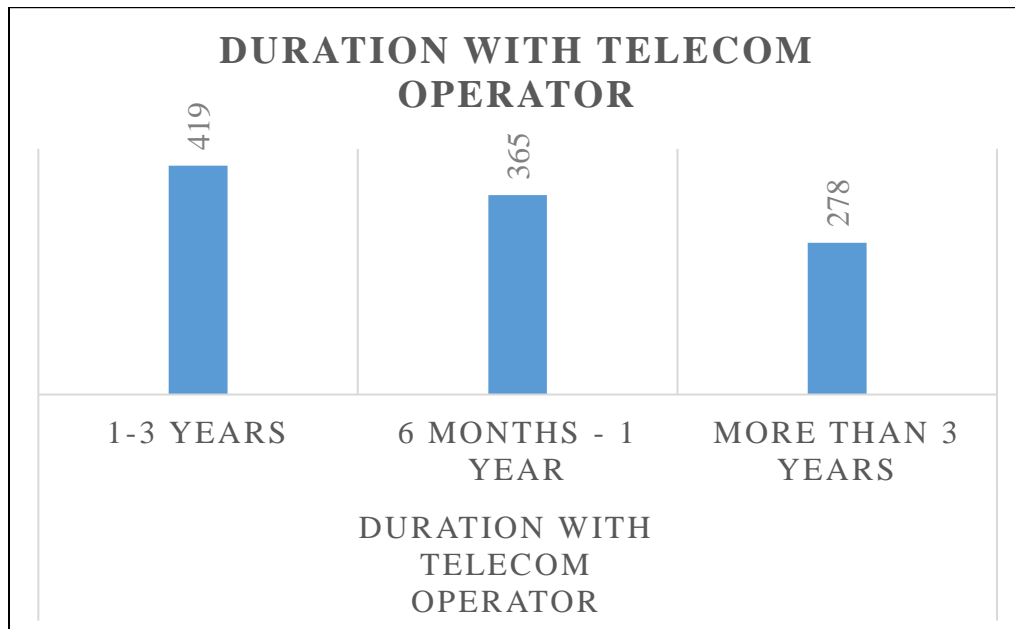
Figure 13 Telecom Operator Used (Source: Primary Data)

Table 10 Demographic characteristic of survey respondents

Variable	Granular group	Total Responses (N)	Number of people (n)	Percentage (%)	Confidence Interval	
					Lower	Upper
Age	30-50 years	1062	397	37.38%	32.15%	42.61%
	18-30 years	1062	368	34.65%	29.42%	39.88%
	Above 50 years	1062	148	13.94%	8.71%	19.17%
	12-18 years	1062	149	14.03%	8.80%	19.26%
Residential Area	Metro City	1062	474	44.63%	39.40%	49.86%
	Town	1062	364	34.27%	29.04%	39.50%
	District place	1062	164	15.44%	10.21%	20.67%
	Village	1062	60	5.65%	0.42%	10.88%
Purpose of mobile usage	Business	1062	838	78.91%	73.68%	84.14%
	Social Media	1062	426	40.11%	34.88%	45.34%
	Gaming	1062	214	20.15%	14.92%	25.38%

	Study	1062	188	17.70%	12.47%	22.93%
Telecom Operator	Jio	1062	372	35.03%	29.80%	40.26%
	Airtel	1062	340	32.02%	26.79%	37.25%
	Vodafone	1062	305	28.72%	23.49%	33.95%
	BSNL	1062	45	4.24%	0.00%	9.47%
Duration with Telecom Operator	1-3 years	1062	419	39.45%	34.22%	44.68%
	6 months - 1 year	1062	365	34.37%	29.14%	39.60%
	More than 3 years	1062	278	26.18%	20.95%	31.41%

4.2 Research Question One

- What are the key **determinants/factors responsible for influencing** enhanced customer experience in the Indian telecom sector?

The next set of questions in the survey was targeted to answer Research Question One. Its objective was to identify the key determinants/factors that will help establish a unified framework for engaging customers and controlling their experiences. As the literature review shows, telecom customer experience management has been understood as a vaguely defined concept. It has resulted in many researchers focusing on different dimensions of customer experience, but never on a consistent framework. One of the most important aspects missing from all telecom customer experience management has been perceived as a hazily defined concept. It has resulted in many researchers focusing on different dimensions of customer experience, but the price has never been part of any framework. Especially for a country with a low ARPU (average revenue per user) like India. Price is a major factor that impacts the customer experience in the Indian telecom sector.

The next set of questions in the survey was targeted to validate if the price is indeed a factor that impacts the customer experience in the Indian telecom sector and to what extent, in terms of frequency and amount of price hikes, it impacts the end mobile consumer.

As was seen by the respondents' answers highlighted in Figure 14 Factors impacting telecom customer experience, more than 90% of the customers considered competitive price (94.63%) as the key differentiator that impacts the customer experience in the Indian telecom sector.

Second, with more than 2/3 of the total customer choice at 70.72%, is the network experience, which has become more critical in recent times with the advent of 5G service in India.

The billing and self-service experience come in third place with more than two-thirds of the total customer votes.

Other models highlight three determinants of customer experience that account for roughly one-third or less of total end-user preference.

These determinants of customer experience are as listed: (Multple-Choice Answers)

- Competitive Price for 1005 people (94.63%)
- Network experience for 751 people (70.72%)
- Billing and self-service experience for 744 people (70.06%)
- Customer care experience for 320 people (30.13%)
- Store and gallery experience for 308 people (29.00%)
- Marketing and Sales for 56 people (5.27%)

Variable	Granular group	Number of people (n)
Factors impacting telecom customer experience	Competitive Price	1005
	Network experience	751
	Billing and self-service experience	744
	Customer care experience	320

	Store and gallery experience	308
	Marketing and Sales	56

Table 11 Factors impacting telecom customer experience (Source: Primary Data)
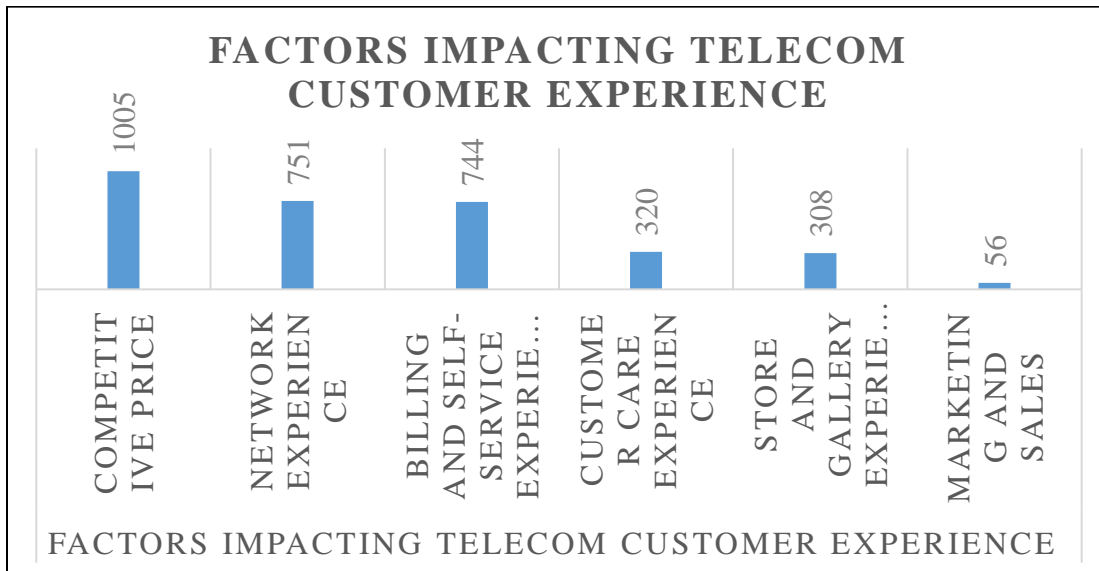
Figure 14 Factors impacting telecom customer experience (Source: Primary Data)

Pursuant to the result that the factors impacting the telecom customer experience, more than 90% of the customers consider the competitive price (94.63%) to be the key differentiator that impacts the customer experience in the Indian telecom sector, the next two questions validate the level of impact that price has, which could deteriorate the mobile user's customer experience.
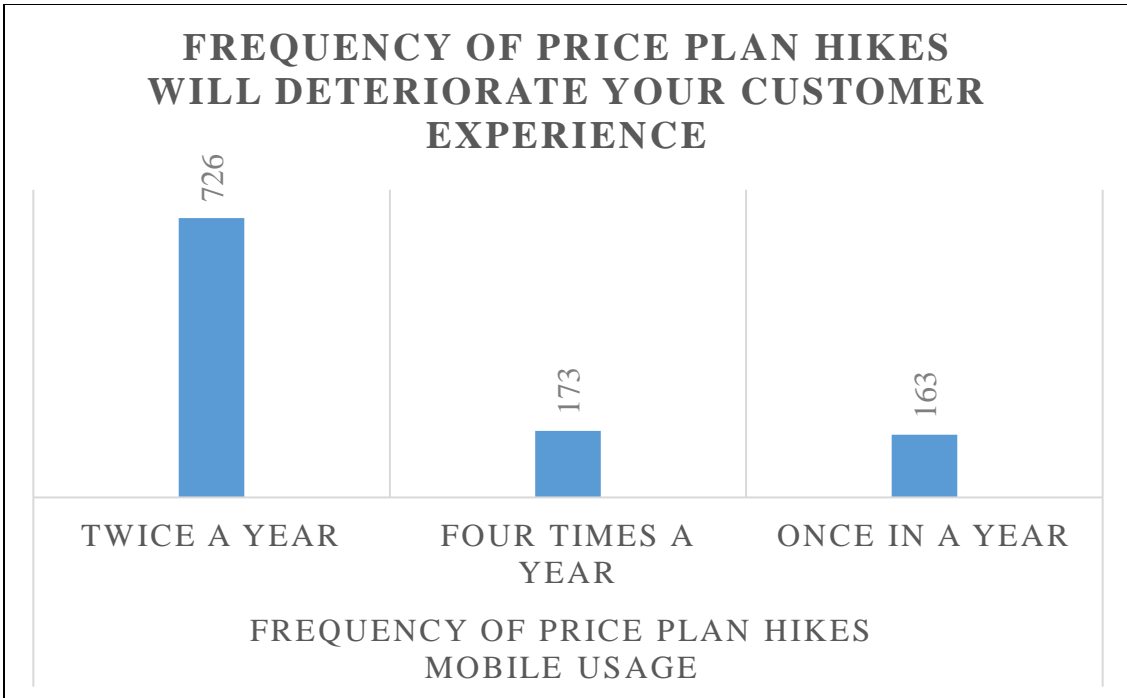
The 7th question in the survey identifies the frequency of price plan hikes that will deteriorate mobile users' customer experiences.

More than half of the respondents, i.e., 726 people (68.36%), stated that twice a year is the maximum amount of a price hike they can tolerate before it impacts their mobile customer experience. At less than one-fourth were the other two options listed below:

- Four times a year for 173 people (16.29%)
- Once in a year for 163 people (15.35%)

Variable	Frequency of price plan hikes will deteriorate your customer experience	Number of people (n)
Frequency of price plan hikes mobile usage	Twice a year	726
	Four times a year	173
	Once in a year	163

Table 12 Frequency of price plan hikes will deteriorate your customer experience (Source: Primary Data)

Figure 15 Frequency of price plan hikes will deteriorate your customer experience (Source: Primary Data)

The 8th question in the survey identifies the price difference per month that will trigger switching telecom operators.

More than half of the respondents, i.e., 728 people (68.55%), stated that 50–100 rupees is the maximum price difference per month they can tolerate before they will think of switching telecom operators. Less than one-fourth were the other three options listed below:

- 100-200 Rs. for 250 people (23.54%)
- 10-50 Rs. for 38 people (3.58%)
- More than 200 Rs. for 46 people (4.33%)

Variable	Price difference per month which will trigger switching telecom operators	Number of people (n)
Price difference per month which will trigger switching telecom operators	50-100 Rs.	728
	100-200 Rs.	250
	10-50 Rs.	38
	More than 200 Rs.	46

Table 13 Price difference per month which will trigger switching telecom operators (Source: Primary Data)

PRICE DIFFERENCE PER MONTH WHICH WILL TRIGGER SWITCHING TELECOM OPERATORS

| | 728 | 250 | 38 | 46 |
| 50-100 RS. | 100-200 RS. | 10-50 RS. | MORE THAN 200 RS. |

PRICE DIFFERENCE PER MONTH WHICH WILL TRIGGER SWITCHING TELECOM OPERATORS
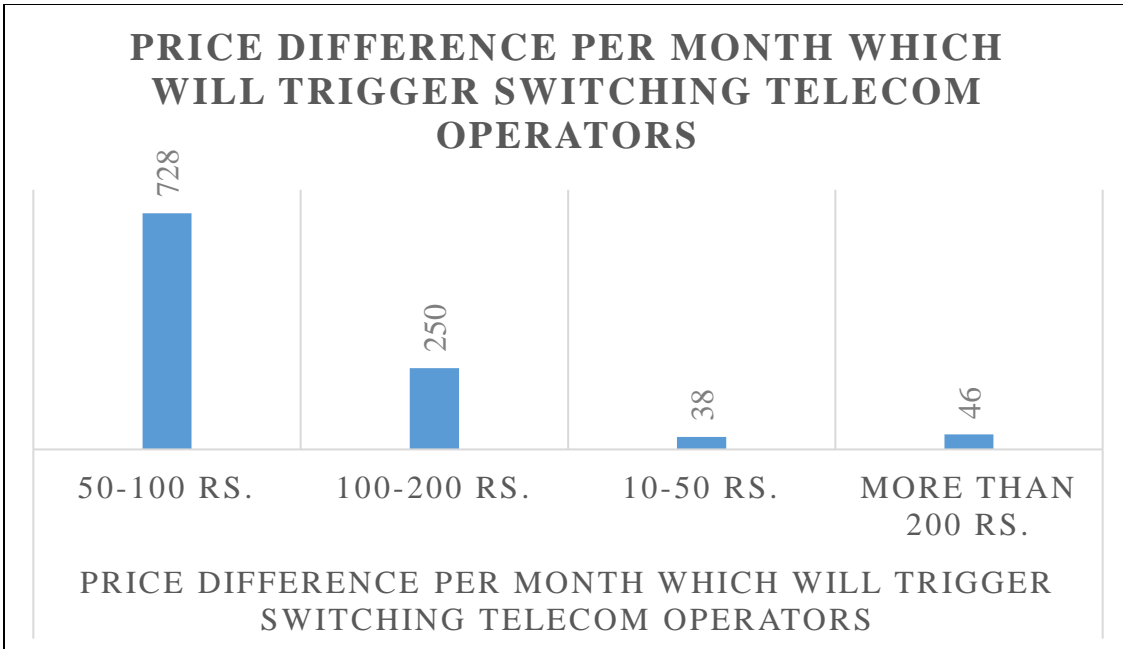
Figure 16 Price difference per month which will trigger switching telecom operators (Source: Primary Data)

Table 14 Factors impacting telecom customer experience by survey respondents (Source: Primary Data)

Variable	Granular group	Total Responses (N)	Number of people (n)	Percentage (%)	Confidence Interval	
					Lower	Upper
Factors impacting telecom customer experience	Competitive Price	1062	1005	94.63%	89.40%	99.86%
	Network experience	1062	751	70.72%	65.49%	75.95%
	Billing and self-service experience	1062	744	70.06%	64.83%	75.29%
	Customer care experience	1062	320	30.13%	24.90%	35.36%
	Store and gallery experience	1062	308	29.00%	23.77%	34.23%
	Marketing and Sales	1062	56	5.27%	0.04%	10.50%
Frequency of price	Twice a year	1062	726	68.36%	63.13%	73.59%

plan hikes that impacts mobile customer experience	Four times a year	1062	173	16.29%	11.06%	21.52%
	Once in a year	1062	163	15.35%	10.12%	20.58%
Price difference per month which will trigger switching telecom operators	50-100 Rs.	1062	728	68.55%	63.32%	73.78%
	100-200 Rs.	1062	250	23.54%	18.31%	28.77%
	10-50 Rs.	1062	38	3.58%	0.00%	8.81%
	More than 200 Rs.	1062	46	4.33%	0.00%	9.56%

4.2 Research Questions Two and Three

- What **practical solutions** can be applied to existing frameworks, which will help elevating the customer experience in the Indian telecom sector?
- What are the **key enhancements needed to implement the solution** that the Indian telecom sector must do to have an all-encompassing customer experience?

The next set of questions in the survey was targeted to answer Research Questions Two and Three. Its objective was to provide practical solutions that can be applied to existing frameworks and help elevate the customer experience in the Indian telecom sector. Also, to determine the key enhancements, the Indian telecom sector must have an all-encompassing customer experience.

4.2.1   Questions 9-12: Pro-active Customer Care

Traditionally, customer care in the telecom space has always been reactive, i.e., they are either dealing with technical issues, incorrect bills, or other complaints after they actually occur. What if we could anticipate and proactively prevent the occurrence of issues that recur? And, if we are unable to prevent the problem, we recommend an alternative plan to the customer so that they remain satisfied and loyal to the cellular service providers as a result of this improvement in the customer experience.

Example:

If the 5G service is going to be down in an area, the customer should be notified ahead of time. Going a step further, the cellular service providers can provide a compensatory reward, a reduction in tariff, an extension of the plan by a week, or a secondary free plan to keep the customer from being disgruntled and sad.

The next set of questions in the survey were targeted to validate if Indian Telecom offers proactive care to its mobile customers in terms of being notified ahead of time. Also, in the event of an outage, what should be the compensation? The second section focuses on Research Question Three in order to determine the key enhancements required to implement the solution that the Indian telecom sector must implement in order to provide an all-encompassing customer experience.

As was seen by the respondents' answers highlighted in Figure 17 on Alert before a network outage, more than 80% of the customers did not receive an alert before a network outage. No proactive care for network outages from any operator's side was observed.

- No network outage alert for 904 people (85.12%)
- Received network outage alert for 158 people (14.88%)

Variable	Received an alert before a network outage	Number of people (n)
Received an alert before a network outage	No	904
	Yes	158

Table 15 Received an alert before a network outage (Source: Primary Data)

RECEIVED AN ALERT BEFORE A NETWORK OUTAGE

904

158

NO

YES

RECEIVED AN ALERT BEFORE A NETWORK OUTAGE
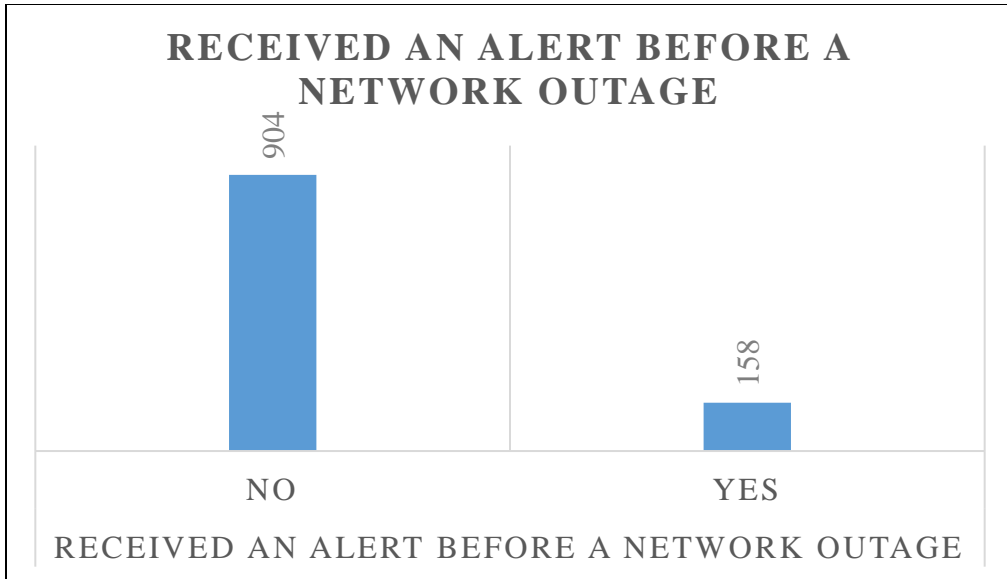
Figure 17 Received an alert before a network outage (Source: Primary Data)

The survey's tenth question attempts to determine whether the notification time is sufficient to plan ahead of time.

More than 98% of the respondents, i.e., 1048 people, either did not get an alert (NA response) or did not get enough time to prepare (No response). Only 14 people, or 1.32%, felt they had enough time to prepare.

The 10th question's results are as follows:
- Not applicable to 898 people (84.56%)
- No, for 150 people (14.12%)
- Yes, for 14 people (1.32%)

Variable	The notification time was sufficient to plan yourself	Number of people (n)
The notification time was sufficient to plan yourself	Not Applicable	898
	No	150
	Yes	14

Table 16 Notification time sufficient to plan yourself (Source: Primary Data)

THE NOTIFICATION TIME WAS SUFFICIENT TO PLAN YOURSELF

898

150

14

NOT APPLICABLE   NO   YES

THE NOTIFICATION TIME WAS SUFFICIENT TO PLAN YOURSELF
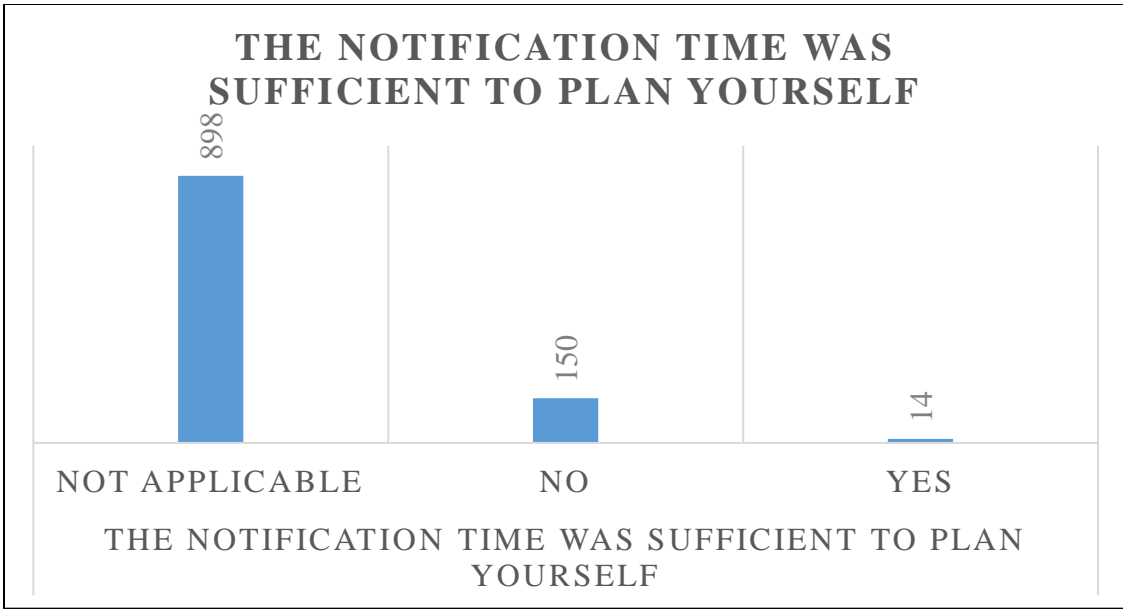
Figure 18 Notification time sufficient to plan yourself (Source: Primary Data)

The 11th question in the survey seeks to find out the amount of advance notice required for the outage to be well prepared.

More than two-thirds of the respondents, i.e., 736 people, suggested that they needed at least 3-6 hours to prepare for the outage. About 28% of people felt they needed 6–9 hours to prepare for the outage. Whereas 2.73% of the people, or 29 participants, felt that up to 3 hours was enough time to prepare for the outage.

The 11th question's results are as follows:
- 3-6 hours for 736 people (69.30%)
- 6–9 hours for 297 people (27.97%)
- 0-3 hours for 29 people (2.73%)

Variable	Advance notice required for the outage to be well prepared	Number of people (n)
Advance notice required for the outage to be well prepared	3-6 hours	736
	6-9 hours	297
	0-3 hours	29

Table 17 Notification time sufficient to plan yourself (Source: Primary Data)
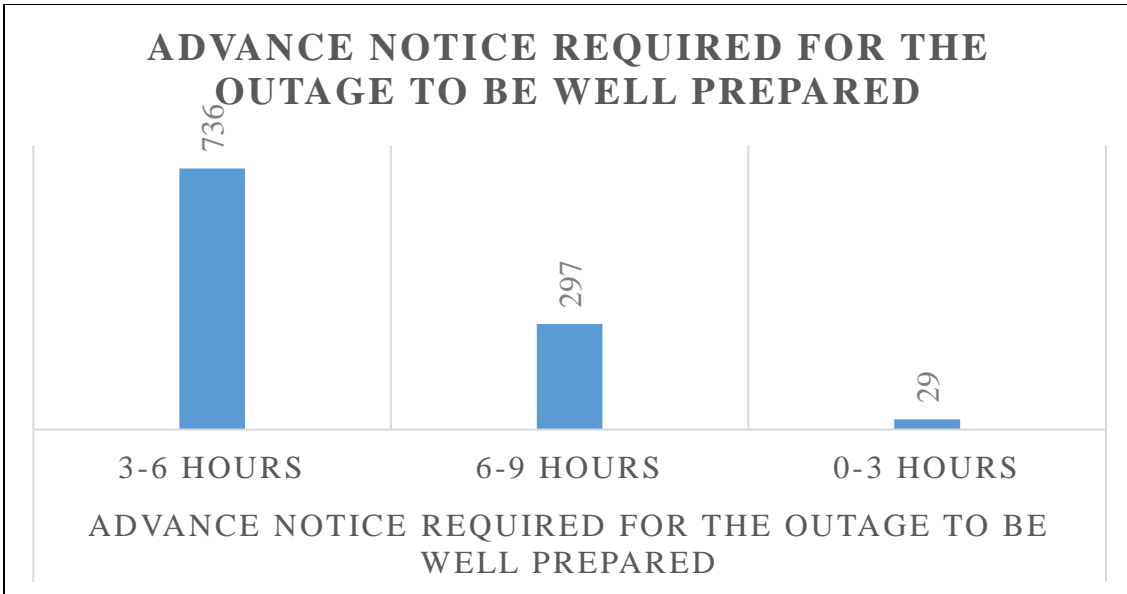
Figure 19 Notification time sufficient to plan yourself (Source: Primary Data)

The 12th question in the survey seeks to find out the compensation expected for network outage losses.

More than 60% of the respondents, i.e., 692 people, expected to get free X GB of data as compensation. The second was the expectation to have the validity of the current plan end date increased by 16.95% of the respondents. The remaining 20% of respondents expected free access to the 5G network and bonus points to spend on VAS.

The 12th question's results are as follows:

- Free X GB of data for 692 people (65.16%)
- Increase the validity of the current plan end date for 180 people (16.95%)
- Free access to the 5G network for 151 people (14.22%)
- Bonus points to spend on VAS for 39 people (3.67%)

Variable	Compensation expected for network outage loss	Number of people (n)
Compensation expected for network outage loss	Free X GB of data	692
	Increase the validity of the current plan end date	180
	Free access to 5G network	151
	Bonus points to spend on VAS	39

Table 18 Compensation expected for network outage loss (Source: Primary Data)

133
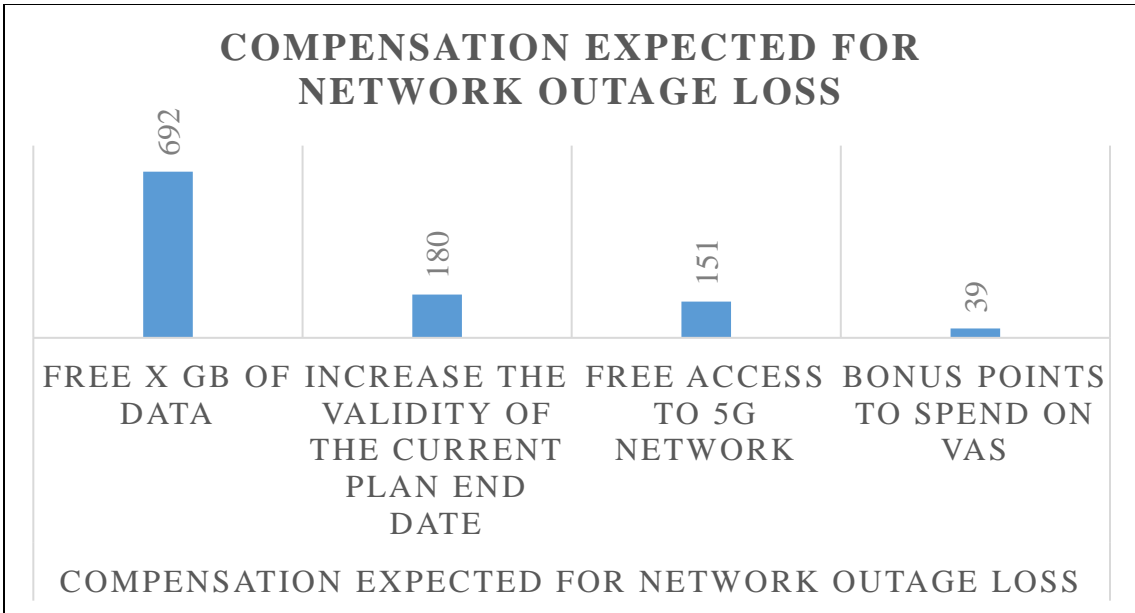
Figure 20 Compensation expected for network outage loss (Source: Primary Data)

Table 19 Pro-active Customer Care solution responses by survey respondents (Source: Primary Data)

Variable	Granular group	Total Responses (N)	Number of people (n)	Percentage (%)	Confidence Interval	
					Lower	Upper
Received an alert before a network outage	No	1062	904	85.12%	79.89%	90.35%
	Yes	1062	158	14.88%	9.65%	20.11%
The notification time was sufficient to plan yourself	Not Applicable	1062	898	84.56%	79.33%	89.79%
	No	1062	150	14.12%	8.89%	19.35%
	Yes	1062	14	1.32%	0%	6.55%
Advance notice required for the outage to be well prepared	3-6 hours	1062	736	69.30%	64.07%	74.53%
	6-9 hours	1062	297	27.97%	22.74%	33.20%
	0-3 hours	1062	29	2.73%	0%	7.96%
Compensation expected	Free X GB of data	1062	692	65.16%	59.93%	70.39%

for network outage loss	Increase the validity of the current plan end date	1062	180	16.95%	11.72%	22.18%
	Free access to 5G network	1062	151	14.22%	8.99%	19.45%
	Bonus points to spend on VAS	1062	39	3.67%	0%	8.90%

4.2.2   Questions 13-16: Local Language Customization

The Indian Constitution recognizes 22 official languages; however, the telecom operator's website and app are only in five Indian languages besides English. Even the languages of the place where I stay (Marathi) and my mother tongue (Gujarati) do not exist. This has an impact on the customer experience in India.

This set of survey questions 13–16 intends to validate it and also check if people prefer to have audio notifications in their local language and are willing to pay less than 5% of their monthly billing to support their local language on the website or app.

As was seen by the respondents' answers highlighted in Figure 21 on operator applications and website support in your local language, more than 2/3 of the customers did not have operator applications and website support in their local language. There was little local language support from any operator.

- No operator application and website support in the local language for 757 people (71.28%)
- Operator application and website support in the local language for 305 people (28.72%)

Variable	Operator application and website support in your local language	Number of people (n)
Operator application and website support in your local language	No	757
	Yes	305

Table 20 Operator application and website support in your local language (Source: Primary Data)

OPERATOR APPLICATION AND WEBSITE SUPPORT IN YOUR LOCAL LANGUAGE

757

305

NO   YES

OPERATOR APPLICATION AND WEBSITE SUPPORT IN YOUR
LOCAL LANGUAGE
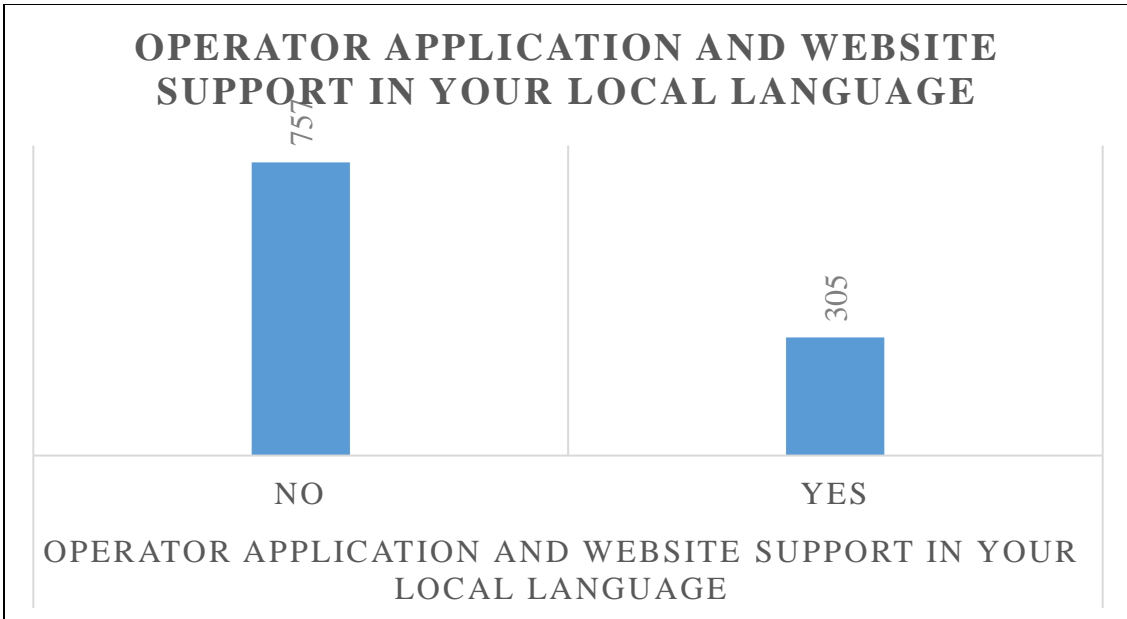
Figure 21 Operator application and website support in your local language (Source: Primary Data)

The 14th question in the survey seeks to find out if lack of local language support affects your experience with a telecom operator.

More than 97% of the respondents, i.e., 1040 people, asserted that lack of local language support affects their experience with a telecom operator. The lack of local language support impacted only 22 people, or about 2.07% of the population.

The 14th question results are as follows:

- Yes for 1040 people (97.93%)
- No for 22 people (2.07%)

Variable	Lack of local language support affects your experience with a telecom operator	Number of people (n)
Lack of local language support affects your experience with a telecom operator	Yes	1040
	No	22

Table 21 Lack of local language support affects your experience with a telecom operator (Source: Primary Data)

LACK OF LOCAL LANGUAGE SUPPORT AFFECTS YOUR EXPERIENCE WITH A TELECOM OPERATOR

1040

22

YES

NO

LACK OF LOCAL LANGUAGE SUPPORT AFFECTS YOUR EXPERIENCE WITH A TELECOM OPERATOR
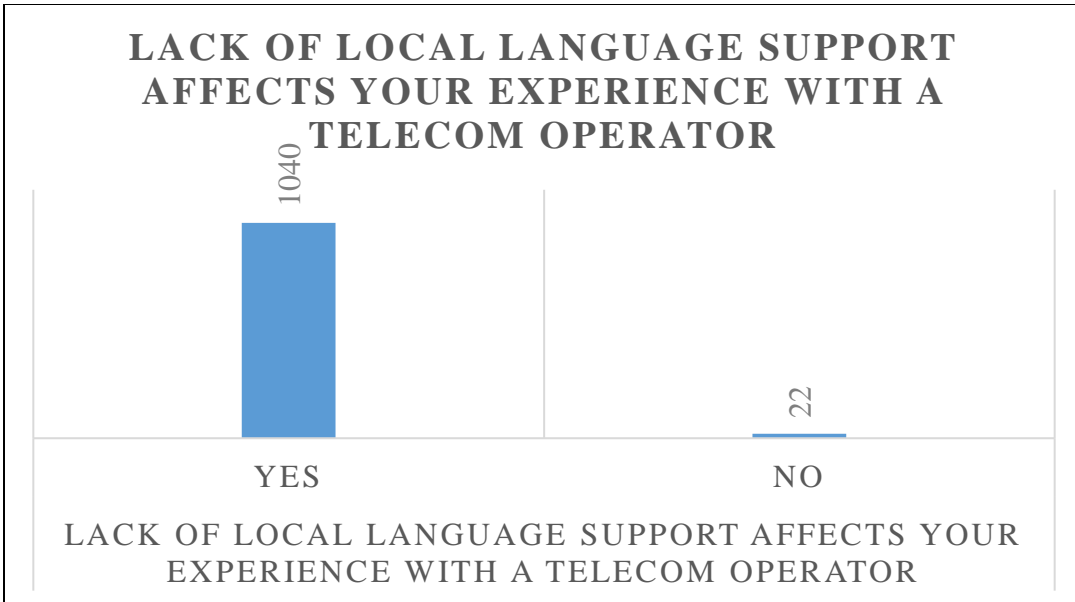
Figure 22 Lack of local language support affects your experience with a telecom operator (Source: Primary Data)

The 15th question in the survey seeks to find out if mobile consumers prefer audio notifications in their native language instead of text notifications.

More than 97% of the respondents, i.e., 1031 people, preferred audio notifications in their native language instead of text notifications. Only 31 people, or about 2.92%, did not prefer to have audio notifications over text notifications in their native language.

The 15th question results are as follows:
- Yes for 1031 people (97.08%)
- No for 31 people (2.92%)

Variable	Prefer audio notifications in their native language instead of text notifications	Number of people (n)
Prefer audio notifications in their native language instead of text notifications	Yes	1031
	No	31

Table 22 Prefer audio notifications in their native language instead of text notifications (Source: Primary Data)

PREFER AUDIO NOTIFICATIONS IN THEIR NATIVE LANGUAGE INSTEAD OF TEXT NOTIFICATIONS
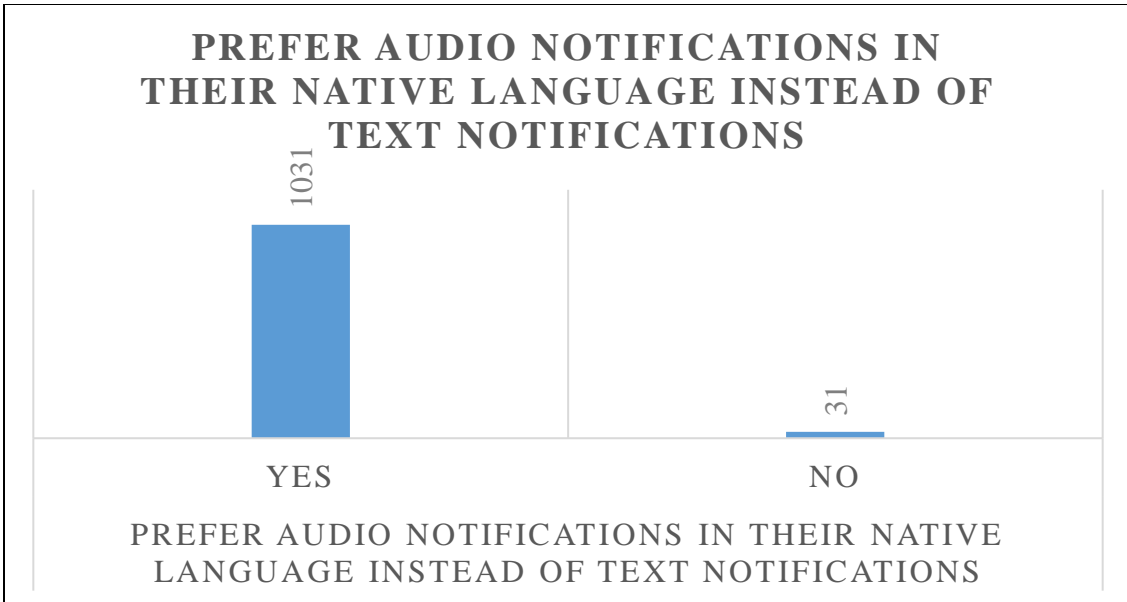
Figure 23 Prefer audio notifications in their native language instead of text notifications (Source: Primary Data)

The 16th question in the survey seeks to find out if mobile consumers are willing to pay less than 5% of their monthly bill to have their local language supported on the website or app.

More than 80% of the respondents, i.e., 877 people, were willing to pay less than 5% of your monthly bill to have their local language supported on the website or app. While185 mobile consumers surveyed, i.e., about 17.42% of the people were not willing to pay less than 5% of their monthly bill to have their local language supported on the website or app.

The 16th question results are as follows:
- Yes for 877 people (82.58%)
- No for 185 people (17.42%)

Variable	Willing to pay less than 5% of your monthly bill to have your local language supported on the website/app	Number of people (n)
Willing to pay less than 5% of your monthly bill to have your local language supported on the website/app	Yes	877
	No	185

Table 23 Willing to pay less than 5% of your monthly bill to have your local language supported on the website/app (Source: Primary Data)

WILLING TO PAY LESS THAN 5% OF YOUR MONTHLY BILL TO HAVE YOUR LOCAL LANGUAGE SUPPORTED ON THE WEBSITE/APP

877

185

YES

NO

WILLING TO PAY LESS THAN 5% OF YOUR MONTHLY BILL TO HAVE YOUR LOCAL LANGUAGE SUPPORTED ON THE WEBSITE/APP
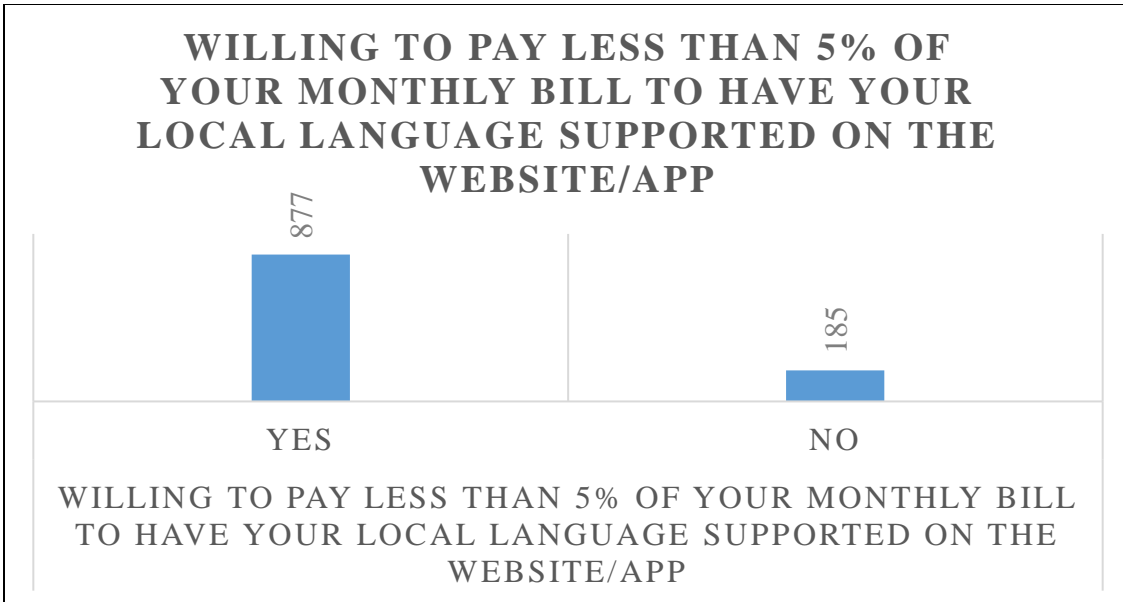
Figure 24 Willing to pay less than 5% of your monthly bill to have your local language supported on the website/app (Source: Primary Data)

Table 24 Local Language Customization responses by survey respondents (Source: Primary Data)

Variable	Granular group	Total Responses (N)	Number of people (n)	Percentage (%)	Confidence Interval	
					Lower	Upper
Operator application and website support in your local language	No	1062	757	71.28%	66.05%	76.51%
	Yes	1062	305	28.72%	23.49%	33.95%
Lack of local language support affects your experience with a telecom operator	Yes	1062	1040	97.93%	92.70%	100%
	No	1062	22	2.07%	0.00%	7.30%
Prefer audio notifications in their native language	Yes	1062	1031	97.08%	91.85%	100%
	No	1062	31	2.92%	0.00%	8.15%

instead of text notifications						
Willing to pay less than 5% of your monthly bill to have your local language supported on the website/app	Yes	1062	877	82.58%	77.35%	87.81%
	No	1062	185	17.42%	12.19%	22.65%

4.2.3 Questions 17-20: Special Days Delights

As of today, no operator in India is providing any special privileges, offers, or delights on customers' special days like birthdays and anniversaries.

This set of survey questions (17–20) aims to validate whether free services from the operator on special days would impact customer experience to the extent that they would recommend the telecom operator to their friends and family if people availed themselves of the above benefits on those special days.

As was seen by the respondents' answers highlighted in Figure 25 on Delights on Special Occasions such as Birthdays and Anniversaries by Telecom Operators, 86.35% of the customers did not get in any way something special on their birthdays or anniversaries. Only a mere 13.65%, i.e., 145 people, had a delightful experience.

- No delights were offered on special occasions such as birthdays and anniversaries by telecom operators for 917 people (86.35%)
- Telecom Operators' delights on special occasions such as birthdays and anniversaries for 145 people (13.65%)

Variable	Operators delight you in any way on special occasions such as birthdays and anniversaries	Number of people (n)
Operators delight you in any way on special occasions such as birthdays and anniversaries	No	917
	Yes	145

Table 25 Delights on special occasions such as birthdays and anniversaries by Telecom Operators (Source: Primary Data)
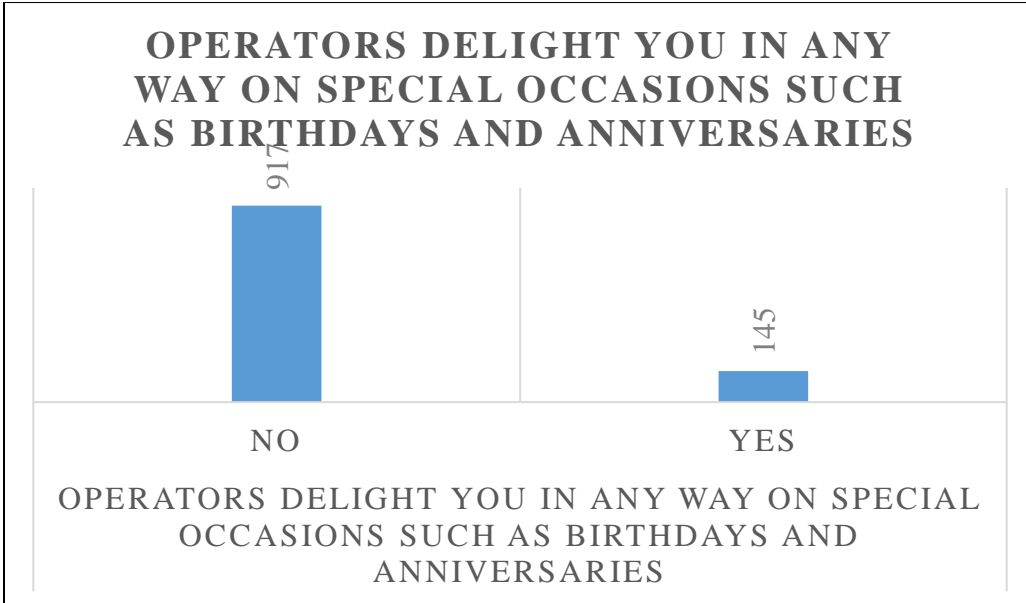
Figure 25 Delights on special occasions such as birthdays and anniversaries by Telecom Operators (Source: Primary Data)

The 18th question in the survey seeks to find out if mobile consumers look forward to free services from their operator on special days like birthdays and anniversaries.

More than 97.08% of the respondents, i.e., 1031 people, did look forward to free services from their operator on special days like birthdays and anniversaries. 31 mobile consumers, i.e., about 2.92% of the people, were not keen on free services from your operator on your special days like birthdays and anniversaries.

The 18th question results are as follows:
- Yes for 1031 people (97.08%)
- No for 31 people (2.92%)

Variable	Look forward to free services from your operator on your special days like Birthdays and Anniversary	Number of people (n)
Look forward to free services from your operator on your special days like Birthdays and Anniversary	Yes	1031
	No	31

Table 26 Look forward to free services from your operator on your special days like Birthdays and Anniversary (Source: Primary Data)

LOOK FORWARD TO FREE SERVICES FROM YOUR OPERATOR ON YOUR SPECIAL DAYS LIKE BIRTHDAYS AND ANNIVERSARY

1031	31
YES	NO

LOOK FORWARD TO FREE SERVICES FROM YOUR OPERATOR ON YOUR SPECIAL DAYS LIKE BIRTHDAYS AND ANNIVERSARY
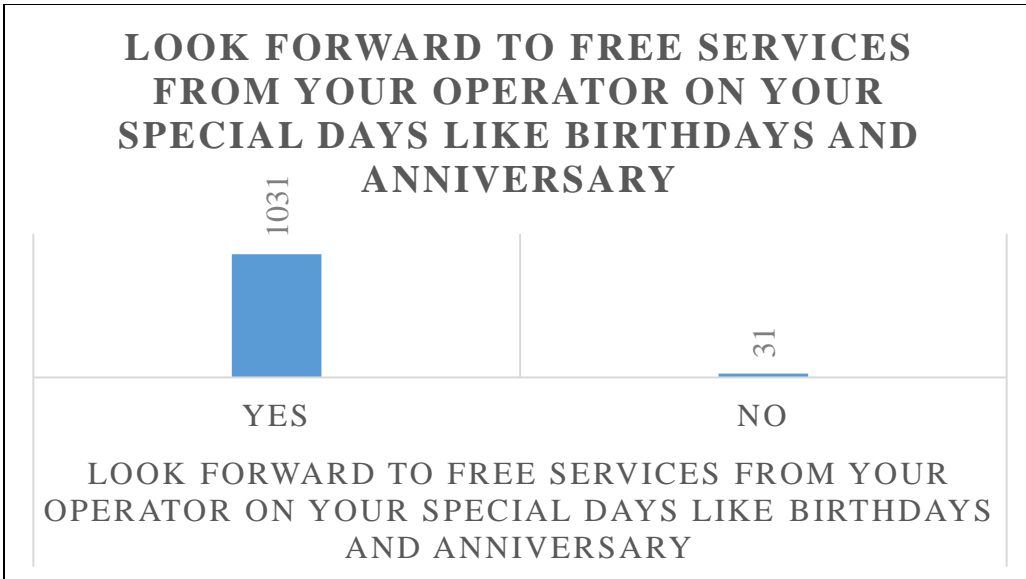
Figure 26 Look forward to free services from your operator on your special days like Birthdays and Anniversary (Source: Primary Data)

The 19th question in the survey asked about the free services mobile consumers surveyed would like to receive from their operator on special days.

More than 2/3 of the respondents, i.e., 716 people, wanted an upgrade to a higher/faster network. 277 mobile consumers, i.e., about 26.08% of the people, wanted free 10 GB of data from their operator on their special days, and 69 people (6.50%) wanted free unlimited calls on their special days like birthdays and anniversaries.

The 19th question results are as follows:

- Upgrade to a higher/faster network for 716 people (67.42%)
- Free 10GB of data for 277 people (26.08%)
- Free unlimited calls for 69 people (6.50%)

Variable	Type of free services would you like to receive from your operator on your special days	Number of people (n)
Type of free services would you like to receive from your operator on your special days	Upgrade to a higher/faster network	716
	Fee 10GB of Data	277
	Free Unlimited Calls	69

Table 27 Type of free services would you like to receive from your operator on your special days (Source: Primary Data)

TYPE OF FREE SERVICES WOULD YOU LIKE TO RECEIVE FROM YOUR OPERATOR ON YOUR SPECIAL DAYS

716	277	69
UPGRADE TO A HIGHER/FASTER NETWORK	FEE 10GB OF DATA	FREE UNLIMITED CALLS

TYPE OF FREE SERVICES WOULD YOU LIKE TO RECEIVE FROM YOUR OPERATOR ON YOUR SPECIAL DAYS
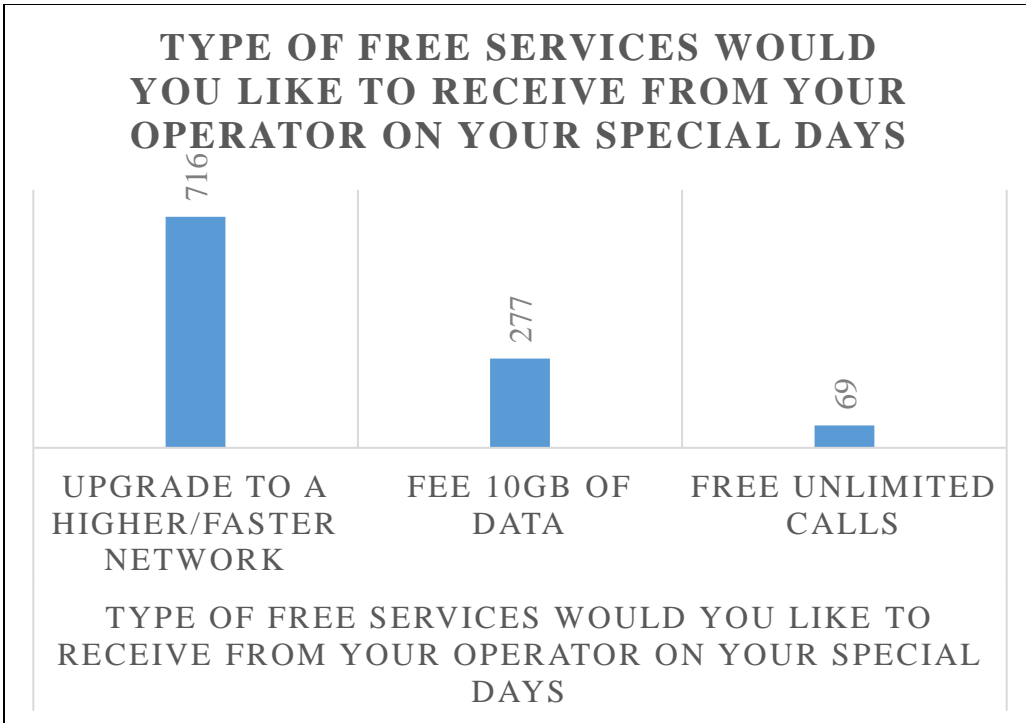
Figure 27 Type of free services would you like to receive from your operator on your special days (Source: Primary Data)

The last question in the survey asked if the mobile consumers surveyed would recommend the telecom operator to their friends and family if they availed of the above benefits on their special days.

More than 92% of the respondents, i.e., 986, said they would recommend the telecom operator to their friends and family if they availed of the benefits on their special days. 76 mobile consumers surveyed, i.e., 7.16%, said they would not recommend the telecom operator to their friends or family, even if they availed of the above benefits on their special days.

The 20th question results are as follows:
- Yes, I will (92.84%) recommend it to 986 people.
- No, I will not recommend it for 76 people (7.16%)

Variable	Recommend the telecom operator to your friends/family if you availed above benefits on your special days	Number of people (n)
Recommend the telecom operator to your friends/family if you availed above benefits on your special days	Yes	986
	No	76

Table 28 Recommend the telecom operator to your friends/family if you availed above benefits on your special days (Source: Primary Data)

RECOMMEND THE TELECOM OPERATOR TO YOUR FRIENDS/FAMILY IF YOU AVAILED ABOVE BENEFITS ON YOUR SPECIAL DAYS

986

76

YES   NO

RECOMMEND THE TELECOM OPERATOR TO YOUR FRIENDS/FAMILY IF YOU AVAILED ABOVE BENEFITS ON YOUR SPECIAL DAYS
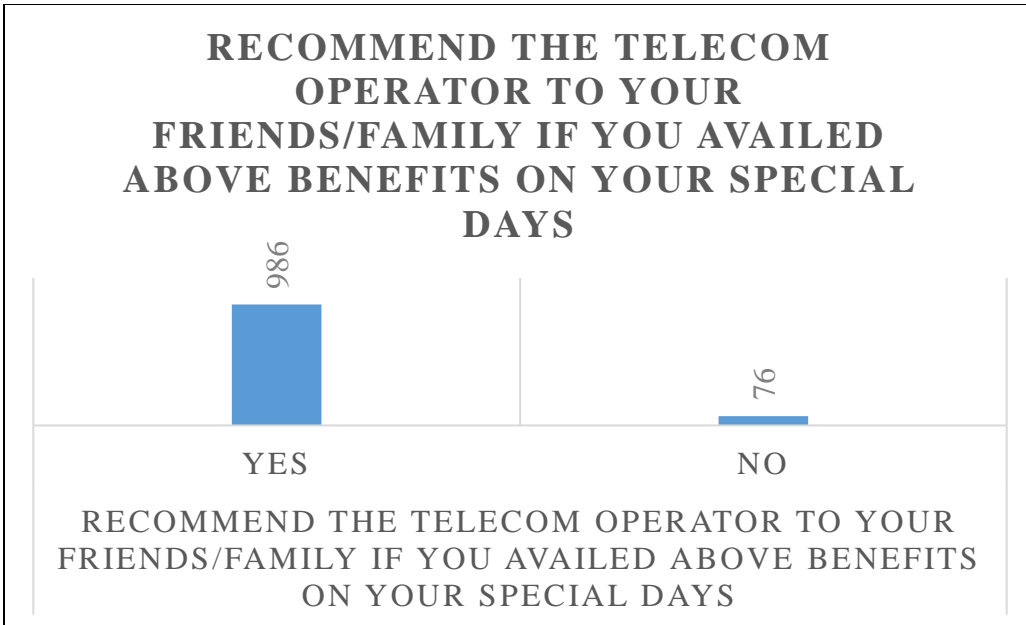
Figure 28 Recommend the telecom operator to your friends/family if you availed above benefits on your special days (Source: Primary Data)

Table 29 Special Days Delights responses by survey respondents

Variable	Granular group	Total Responses (N)	Number of people (n)	Percentage (%)	Confidence Interval	
					Lower	Upper
Operators delight you in any way on special occasions such as birthdays and anniversaries	No	1062	917	86.35%	81.12%	91.58%
	Yes	1062	145	13.65%	8.42%	18.88%
Look forward to free services from your operator on your special days like Birthdays and Anniversary	Yes	1062	1031	97.08%	91.85%	100%
	No	1062	31	2.92%	0.00%	8.15%
Type of free services	Upgrade to a higher/	1062	716	67.42%	62.19%	72.65%

would you like to receive from your operator on your special days	faster network					
	Fee 10GB of Data	1062	277	26.08%	20.85%	31.31%
	Free Unlimited Calls	1062	69	6.50%	1.27%	11.73%
Recommend the telecom operator to your friends/ family if you availed above benefits on your special days	Yes	1062	986	92.84%	87.61%	98.07%
	No	1062	76	7.16%	1.93%	12.39%

4.2.4 Relationship between Telecom Operators and them already offering Solutions Proposed

This section shows the result of the tested relationship between the Indian telecom companies and those that have already offered solutions. The section checks if the practical solutions that can be applied to existing frameworks and that will help elevate the customer experience in the Indian telecom sector are already implemented by the Indian telecom companies or not. The results will also include advice on the key enhancements the Indian telecom sector must make to have an all-encompassing customer experience.

4.2.4.1 Relationship between Telecom Operators and them already offering Proposed Pro-active Customer Care Solution

Customer service in the telecom industry has typically been reactionary, meaning that it only addresses technical problems, inaccurate invoices, or other complaints after they have already happened. The Indian telecom companies should anticipate and proactively prevent the occurrence of issues that recur. Also, if the Indian Telecom Companies cannot prevent the issue, they must provide an alternative incentive to the customer to ensure that they stay satisfied and devoted to the cellular service providers, which will in turn lead to an improvement in the customer experience.

The following hypotheses were developed for a proactive customer care solution for network outages.

H01: There is no significant relationship between Indian telecom companies and those already offering proactive customer care for network outages.

Ha1: There is a relationship between Indian telecom companies and those already offering proactive customer care for network outages.

The hypotheses **H01** and **Ha1** were tested using the Chi-Square Test Calculator as below:

The contingency table 30 below provides the following information: the observed cell totals, (the expected cell totals) and [the chi-square statistic for each cell]. The chi-square statistic, p-value, and statement of significance appear beneath the table. A p-value of 0.05 was used to determine what outcomes were statistically significant.

Table 30 Chi-Square Test Calculator for testing Hypothesis H01 and Ha1

Pro-active Customer Care Results					
	Jio	Airtel	Vodafone	BSNL	*Row Totals*
Yes	353 (316.66) [4.17]	330 (289.42) [5.69]	184 (259.62) [22.03]	37 (38.31) [0.04]	904
No	19 (55.34) [23.87]	10 (50.58) [32.56]	121 (45.38) [126.03]	8 (6.69) [0.25]	158
Column Totals	372	340	305	45	**1062 (Grand Total)**

The chi-square statistic is 214.6487.

The p-value is < 0.00001.

The result is significant at p < .05

The relationships were found to be significant at p<0.05 resulting in the failure to reject H01 as seen in Table 30 above. As a result, we can conclude that there is no significant relationship between Indian telecom companies and their proactive customer care for network outages.

4.2.4.2 Relationship between Telecoms and them already offering Local Language Customization

The telecom operator's website and app are only available in five Indian languages other than English, despite the Indian Constitution designating 22 official languages. This has an impact on the customer experience in India.

The hypotheses presented below were developed in order to provide local language customization.

H02: There is no significant relationship between Indian telecom companies and them already offering local language customization.

Ha2: There is a significant relationship between Indian telecom companies and them already offering local language customization.

The hypotheses **H02** and **Ha2** were tested using the Chi-Square Test Calculator as below:

The contingency table 31 below provides the following information: the observed cell totals, (the expected cell totals) and [the chi-square statistic for each cell]. The chi-square statistic, p-value, and statement of significance appear beneath the table. A p-value of 0.05 was used to determine what outcomes were statistically significant.

Table 31 Chi-Square Test Calculator for testing Hypothesis H02 and Ha2

Local Language Customization Results				
	Jio	Airtel	Vodafone	BSNL	Row Totals
Yes	228 (265.16) [5.21]	202 (242.35) [6.72]	294 (217.41) [26.98]	33 (32.08) [0.03]	757
No	144 (106.84) [12.93]	138 (97.65) [16.68]	11 (87.59) [66.98]	12 (12.92) [0.07]	305
Column Totals	372	340	305	45	**1062** **(Grand Total)**

The chi-square statistic is 135.5858.

The p-value is < 0.00001.

The result is significant at p < .05

The relationships were found to be significant as p<0.05 resulting in the failure to the rejection of H02 as seen in Table 31 above. Hence, we can conclude that there is no significant relationship between Indian Telecoms Companies and them already offering Local Language Customization.

4.2.4.3 Relationship between Telecoms and them already offering Special Days Delights

On consumers' special days like birthdays and anniversaries, no operator in India is currently offering any exclusive privileges, deals, or delights. The hypotheses presented below were developed in order to provide Special Days Delights.

H03: There is no significant relationship between Indian Telecoms Companies and them already offering Special Days Delights

Ha3: There is a significant relationship between Indian Telecoms Companies and them already offering Special Days Delights

The hypotheses **H03** and **Ha3** were tested using the Chi-Square Test Calculator as below:

The contingency table 32 below provides the following information: the observed cell totals, (the expected cell totals) and [the chi-square statistic for each cell]. The chi-square statistic, p-value, and statement of significance appear beneath the table. A p-value of 0.05 was used to determine what outcomes were statistically significant.

Table 32 Chi-Square Test Calculator for testing Hypothesis H03 and Ha3

Special Days Delights Results				
	Jio	Airtel	Vodafone	BSNL	*Row Totals*
Yes	315 (321.21) [0.12]	302 (293.58) [0.24]	256 (263.36) [0.21]	44 (38.86) [0.68]	917
No	57 (50.79) [0.76]	38 (46.42) [1.53]	49 (41.64) [1.30]	1 (6.14) [4.31]	145
Column Totals	372	340	305	45	**1062** **(Grand Total)**

The chi-square statistic is 9.1416.

The p-value is .027466.

The result is significant at p < .05

The relationships were found to be significant as p-value is .027466 resulting in the failure to the rejection of H03 as seen in Table 32 above. Hence, we can conclude that there is no significant relationship between Indian Telecoms Companies and them already offering special day delights, or that none does currently.

Table 33 Relationship between Telecoms and them already offering Solutions Proposed based on responses by survey respondents

| Variable | Granular group | Indian Telecoms Companies | | | | Total | Chi-Square | | |
		Jio	Airtel	Vodafone	BSNL		chi-square statistic	P value	Is The result significant at p < .05
Already offering Pro-active Customer Care for Network outages.	Yes	353	330	184	37	904	214.6487	The p-value is < 0.00001	Yes The result is significant at p < .05
	No	19	10	121	8	158			
Already offering Local Language Customization	Yes	228	202	294	33	757	135.5858	The p-value is < 0.00001	Yes The result is significant at p < .05
	No	144	138	11	12	305			
	Yes	315	302	256	44	917	9.1416		

Already offering Special Days Delights to their end customer	No	57	38	49	1	145		The p-value is .027466	Yes The result is significant at p < .05

4.3 Summary of Findings

In this section of the results, the profiles of mobile consumers in India were collected. I started with the demographic profile and moved on to the questions that helped answer my research questions and test my hypothesis.

Questions 6–8 helped answer **Research Question 1** related to the key determinants or factors responsible for influencing enhanced customer experience in the Indian telecom sector. The questions also help ascertain if price is indeed a factor impacting customer experience and to what extent.

Questions 9–20 helped answer and test the hypothesis for **Research Questions 2 and 3** with practical solutions that will help elevate the customer experience and the key enhancements needed to implement the solution that the Indian telecom sector must do to have an all-encompassing customer experience.

To summarize, the questions aided in the validation of all three proposed solutions. Proactive Customer Care, Local Language Customization, and Special Day Delights will be covered in greater detail in Chapter V. DISCUSSION.

CHAPTER V:

DISCUSSION

5.1 Discussion of Results

This research examined the key factors responsible for influencing the enhanced customer experience in the Indian telecom sector and practical solutions that will help elevate the customer experience in the Indian telecom sector.

The first section of the research questionnaire investigated Indian mobile customers' preferences for factors that can improve their key telecom operator. The questions also helped ascertain if price is indeed a factor impacting customer experience and to what extent, facilitating the structured process to answer the following research question:

- What are the key **determinants/factors responsible for influencing** enhanced customer experience in the Indian telecom sector**?**

The second part of the study looked into the validity of the three proposed solutions (proactive customer care, local language customization, and special day delights) and whether they were currently offered by Indian telecom operators. This helped facilitate the structured process to answer the following research questions:

- What are the **practical solutions** that can be applied to existing frameworks, which will help in elevating the customer experience in the Indian telecom sector?
- What are the **key enhancements needed to implement the solution** that the Indian telecom sector must do to have an all-encompassing customer experience?

The analysis from these two portions of the research is covered in the sections that follow, taking into account the outcomes and conclusions from the research study that carefully examined the possibilities.

5.2 Discussion of Research Question One

- Research Question One -- What are the key **determinants/factors responsible for influencing** enhanced customer experience in the Indian telecom sector**?**

The aim of Research Question One was to ascertain the key determinants and factors responsible for influencing enhanced customer experience in the Indian telecom sector. Survey questions 6-8 did just that, with the analysis below.

Conspicuously absent from all Domb et al., (2015) lists of various frameworks used in the telecom business for measuring and defining customer experience in the literature review was competitive price as a factor. For a low ARPU country like India, the price remains a key factor that determines the customer experience, as seen by the fact that a massive 94% of the people rated competitive price among the top 3 factors that affect their telecom operator experience.

With the advent of 5G service in India in the last quarter of 2022 and slowly spreading across the country, the second key factor, accounting for more than 2/3 of the total customer choice at 70.72%, was the network experience.

As India is predominantly a prepaid nation when it comes to mobile consumers, the self-service experience plays an important role, even larger than the customer care experience, which is more inclined and needed for the postpaid population in relation to the account and billing-related query resolutions. Hence, coming in a close third with more than 2/3 of the total customer votes, was the billing and self-service experience.

Table 34 below summarizes the top three key **determinants/factors responsible for influencing** enhanced customer experience in the Indian telecom sector.

Table 34 Top three key determinants/factors responsible for influencing enhanced customer experience in the Indian telecom sector

Variable	Key determinants/factors	Rank
Factors impacting telecom customer experience	Competitive Price	1
	Network experience	2
	Billing and self-service experience	3

Taking the findings a step further, the questionnaire helped understand the impact of the competitive price for Indian telecom operators. When it comes to price changes for mobile consumers, the research looked at the two factors listed below:

- The frequency of price plan hikes will deteriorate their customers' experiences.
- The price difference per month that will trigger them to switch telecom operators.

The frequency of price plan hikes is a pertinent problem both for telecom operators and consumers in the Indian telecom space. While the telecom companies are aiming to maximize profits or reduce operational losses, as the case may be, the price-sensitive Indian mobile consumer has no qualms about switching mobile operators. The mobile number portability simply allows the customer to do so more easily. This is also apparent per the Telecom Regulatory Authority of India (2022) numbers, which show that the cumulative MNP requests increased from 652.88 million at the end of November 2021 to 661.42 million at the end of December 2021 since the

implementation of MNP. This means that the churn rate is increasing across Indian telecom providers.

According to the research, telecom operators should limit price plan increases to no more than once per year, after which the Indian mobile consumer experience will deteriorate.

The amount of the price plan hike is closely related to the frequency of price plan hikes. The research helped qualify the price difference per month, which will trigger Indian mobile consumers to switch telecom operators. With 2/3 of the respondents saying that a Rs. 50-100 difference per month would trigger them to switch telecom operators, As stated in the preceding paragraph, mobile number portability is a major enabler of the same.

The research recommends that telecom operators cap price plan hikes at a maximum of Rs 50, beyond which will trigger Indian mobile consumers on switching telecom operators.

The Indian telecom operator must thread a fine line between profitability and customer retention when hiking prices in the Indian telecom market.

If profitability and growth projections allow, the research suggests a price plan increase of no more than Rs 50 once a year, after which the Indian mobile consumer experience will deteriorate.

5.2 Discussion of Research Questions Two and Three

- Research Question Two -- What are the **practical solutions** that can be applied to existing frameworks, which will help in elevating the customer experience in the Indian telecom sector?

- Research Question Three -- What are the **key enhancements needed to implement the solution** that the Indian telecom sector must do to have an all-encompassing customer experience?

The goal of Research Questions Two and Three was to provide practical solutions that will aid in elevating the customer experience, as well as the key enhancements required to implement the solution that the Indian telecom sector must do in order to provide an all-encompassing customer experience.

Three practical solutions and their corresponding key enhancements needed to be done by Indian telecom operators, listed below, were identified by this research:

- Pro-active Customer Care
- Local Language Customization
- Special Day Delights.

5.2.1 Pro-active Customer Care

Customer service in the telecom industry has historically been reactive, meaning that it only addresses technical problems, inaccurate invoices, or other complaints after they have already happened. To have a superior customer experience, Indian telecom operators must proactively prevent the occurrence of issues that recur. Additionally, Indian telecom operators must provide the consumer with an alternative plan if they are unable to prevent the problem in order to improve their customer experience and keep them satisfied and devoted to the cellular service providers. Survey questions 6–8 did just that, as shown in the analysis below.

The research first checked if such a service is prevalent among the telecom operators in India and found that more than 85% of Indian mobile consumers do not get an alert for the outage. And even for the 14.88% of people who received an alert about the outage, only 14.12% had sufficient time to prepare. Hence, the research questions uncovered a pain point that was prevalent across all Indian telecom operators.

The next step in the research was to identify a solution that could be proposed for proactive customer care related to the network outage so that it would enhance the end-user experience. The research sought to determine the amount of advance notice required for the outage to be well anticipated by Indian mobile consumers. 97% of the people asked for more than 3 hours, and 3-6 hours were found enough by 69.30% of the respondents. Considering the fact that it is not always feasible to give more than 6 hours' notice for the outage, I recommend at least 3 hours' notice or more, so that Indian mobile consumers are better equipped to handle the outage.

Now that we have guided all Indian telecom operators on how to mitigate the worsening of customer experience due to network outages, it is not enough. The dip in customer experience must now be mitigated by compensation for network outage

losses. The compensation will soften the customer experience impact and ensure that the customer stays with the telecom operator. Based on the responses of more than 65% of the questionnaire respondents, Free X GB of data will be the ideal compensation.

If technically feasible, the research recommends a minimum of three hours' heads-up so that Indian mobile consumers are better equipped to handle the outage. Also, offer free X GB of data after an outage so as not to deteriorate the Indian mobile consumer experience.

5.2.2 Local Language Customization

The telecom operator's website and app are only available in five Indian languages other than English, despite the Indian Constitution designating 22 official languages. Indian mobile consumers' customer experiences are impacted by this. The same is validated by research, which also examines whether users prefer to get audio notifications in their native tongue and whether they would be prepared to spend less than 5% of their monthly cost to have their native tongue supported on a website or mobile application.

The study first looked into whether Indian telecom operators offer local language customization and discovered that more than two-thirds of Indian mobile consumers do not have telecom operator application and website support in their native language. And a staggering 97.93% of people asserted that the lack of local language support affected their experience with the telecom operator.

The next step in the research was to identify a solution that could alleviate the mobile consumer experience in the local language customization space. One such solution was to have audio notifications in their native language instead of text notifications. 97.08% of the people preferred to have audio notifications in their local language instead of text notifications in English.

Since local language customization needs financial investment from the Indian telecom operators, the research further validated that it can be recovered from the end customer. More than three-fourths of mobile consumers were willing to pay less than 5% of their monthly bill to have their local language supported on the website or app. The result should give enough impetus to the Indian telecom operators to provide and charge for local language customization.

Since it is financially and technically feasible, the research recommends local language customization for the telecom operator's application and website. Also, provide audio notifications in their native language instead of text notifications. As seen in the research, local language customization can be charged for, and consumers are willing to pay for this enhanced customer experience.

5.2.3 Special Day Delights

On consumers' special days like birthdays and anniversaries, no operator in India is currently offering any exclusive privileges, deals, or delights. If people take advantage of the aforementioned incentives on your special days, the study determined whether it would improve customers' experiences to the point where they would recommend the telecom operator to their friends and family.

The research first checked if "Special Day Delights" exist among the telecom operators in India and found that more than 86.35% of the Indian mobile consumers do not have the telecom operators delighting them in any way on special occasions such as birthdays and anniversaries. And what is more intriguing is that 97.08% of mobile consumers do look forward to free services from their operator on special days like birthdays and anniversaries.

The next step in the research was to identify a solution that could alleviate the mobile consumer experience in the Special Days Delights space. The Indian mobile consumers were given various options for free unlimited calls, including free unlimited calls, free 10 GB of data, and an upgrade to a higher or faster network. According to the findings, more than two-thirds of Indian mobile consumers wanted an upgrade to a higher or faster network as a free service from their operator on special occasions such as birthdays and anniversaries.

As a return on investment for the Special Day Delights offering, the research further found that 92.84% of Indian mobile consumers would recommend the telecom operator to their friends and family if they availed of the above benefits on their special days. The result should give enough motivation to the Indian telecom operators to provide Special Days Delights offerings to enhance the customer experience.

The research recommends an upgrade to a higher or faster network as free services from Indian telecom operators on special days such as birthdays and anniversaries, based on the return on investment of the Special Days Delights offering. The enhanced customer experience will result in mobile consumers recommending the telecom operator to their friends and family if they take advantage of the benefits on their special days.

CHAPTER VI:
SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

6.1 Summary

The information presented in this dissertation is summarized in this chapter. The research's findings and their interpretation in Chapter V are explained in the conclusion.

This research was conducted to address the knowledge gap regarding the key factors responsible for influencing an enhanced customer experience. On the basis of a descriptive research design, the research topics were evaluated using qualitative research. The outcomes of this research can be summarized as follows:

The research substantiated the fact that for a low-ARPU (average revenue per user) country like India, price remains a key factor that determines the customer experience. The results of the analysis show that the competitive price is the key differentiator that impacts the customer experience in the Indian telecom sector, followed by the network experience along with the billing and self-service experiences.

The research concludes that the top three key determinants or factors responsible for influencing enhanced customer experience in the Indian telecom sector are:

1. Competitive Price
2. Network experience
3. Billing and self-service experience.

The research also helped understand the impact of the competitive price on Indian telecom operators. According to the research, telecom operators should limit price plan increases to no more than once per year, after which the Indian mobile consumer experience will deteriorate. The research recommends that telecom operators cap price

plan hikes at a maximum of Rs 50, beyond which Indian mobile consumers will switch telecom operators.

The research concludes that, if profitability and growth projections allow, a price plan increase should be no more than Rs 50 once a year, after which the Indian mobile consumer experience will deteriorate.

The second part of the research provides practical solutions that will aid in elevating the customer experience, as well as the key enhancements required to implement the solution that the Indian telecom sector must do in order to provide an all-encompassing customer experience.

Three practical solutions and their corresponding key enhancements needed to be implemented by Indian telecom operators, listed below, were identified by this research as "pro-active customer care," "local language customization," and "special day delights."

- **Pro-active Customer Care:**

    As part of the proactive customer care solution, it is recommended by the research that Indian telecom operators must proactively prevent the occurrence of issues that recur. Additionally, Indian telecom operators must provide the consumer with compensation if they are unable to prevent the problem.

    The research looked at proactive customer care related to network outage scenarios. The research recommends at least 3 hours' notice or more so that Indian mobile consumers are better equipped to handle the outage. Also, based on responses from the questionnaire respondents, free X GB of data will be the ideal compensation for mobile consumers in order to improve their customer

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experience and keep them satisfied and devoted to the cellular service providers.

The research concludes that, if technically feasible, a minimum of three hours' heads-up is needed so that Indian mobile consumers are better equipped to handle the outage. Also, offer free X GB of data after an outage so as not to deteriorate the Indian mobile consumer experience.

- **Local Language Customization:**

The research discovered that more than two-thirds of Indian mobile consumers do not have access to telecom operator applications and websites in their native language. And most of the people asserted that the lack of local language support affected their experience with the telecom operator. The research recommends the solution of having audio notifications in their native language instead of text notifications, which was endorsed by the questionnaire respondents and will alleviate the mobile consumer experience in the local language customization space.

The research further discovered that more than three-fourths of mobile consumers were willing to pay less than 5% of their monthly bill to have their local language supported on the website or app. These research findings must give enough impetus to the Indian telecom operators to provide and charge for local language customization.

The research concludes that, since it is financially and technically feasible, the telecom operator should implement local language customization for its application and website. Also, provide audio notifications in their native language instead of text notifications. As seen in the research, local language

customization can be charged for, and consumers are willing to pay for this enhanced customer experience.

- **Special Day Delights:**

  The research validated whether "special day delights" exist among the telecom operators in India and found that none of the telecom operators delighted Indian mobile consumers in any way on special occasions such as birthdays and anniversaries. The research-recommended solution was to upgrade to a higher or faster network as a free service from their operator on special occasions, which would in turn alleviate the mobile consumer experience in the Special Days Delights space. The research further found that most Indian mobile consumers would recommend the telecom operator to their friends and family if they availed of the benefits on their special days.

  In conclusion, the research recommends an upgrade to a higher or faster network as free services from Indian telecom operators on special days such as birthdays and anniversaries, based on the return on investment of the Special Days Delights offering. The enhanced customer experience will result in mobile consumers recommending the telecom operator to their friends and family if they take advantage of the benefits on their special days.

6.2 Implications

Some important practice implications of this research's findings relate to enhanced customer experience in the Indian telecom sector by focusing on the key factors responsible and implementing the proposed solutions.

The research implications relate to assessing how customer experience in the Indian telecom sector can be enhanced by focusing on the top three key determinants or factors, i.e., competitive price, network experience, and billing and self-service experience. Based on the research's findings, the Indian telecom sector must focus on price, which is the key differentiator that impacts the customer experience. The outcome of this research also guides the telecom operators to cap price plan hikes and advises on the frequency of such hikes, which will trigger Indian mobile consumers to switch telecom operators.

Based on the research's findings, since none of the Indian telecom operators are already offering the three proposed solutions, it's highly recommended for them to start implementing one or all of the solutions if profitability and growth projections allow for the same. The three proposed solutions are proactive customer care, local language customization, and special-day delights. This research also acknowledges the challenges the Indian telecom operators may have in financing the three proposed solutions, in which case the research also validated that mobile consumers were willing to pay less than 5% of their monthly bill for such enhanced customer experiences.

The outcome of this research points to the significant customer experience impacts due to the time frame of the research corresponding with the rise of 5G technology and highlights it as an area that warrants future research.

6.3 Recommendations for Future Research

This section focuses on the methodology's elements as well as the gaps that emerged after discussing the results. Following are the recommendations for future research.

The time frame of the research corresponded with the rise of 5G technology in India. The time frame could have resulted in the selection of network experience as a key factor influencing customer experience and more than two-thirds of Indian mobile consumers wanting an upgrade to a higher or faster network as a free service from their operator on special occasions such as birthdays and anniversaries. Researchers might be able to determine whether the suggested key factors that influence customer experience persist by monitoring responses in the future, assuming no introduction of future technologies.

The current research is limited in its scope because it only considers aspects of the customer experience that affect Indian mobile consumers. Considering that the scope of this research was limited to Indian telecom operators, the same research can be applied to other segments of the telecom business, such as equipment suppliers, internet providers, DTH providers, personal computer manufacturers, and other sectors, as customer experience is a key element in establishing a competitive edge for all these service sectors too.

6.4 Conclusion

The research will benefit the Indian Telecom Operators and the end mobile customers with factors and solutions to enhance their customer experience.

In this dissertation, the knowledge gap with respect to price being one of the key factors responsible for influencing the enhanced customer experience in the Indian telecom sector was addressed. Quantitative research collected data via a questionnaire from Indian mobile consumers fueled the results of this research. According to this research, competitive price, network experience, and billing and self-service experience are the top three key factors impacting customer experience in the Indian telecom sector.

This research shows various solutions that Indian telecom operators can adopt to elevate the customer experience. They must start implementing one or all of the solutions if profitability and growth projections allow for the same. This research encourages Indian telecom operators to provide proactive customer care, local language customization, and special day delights.

The research is limited to the time frame corresponding to the rise of 5G technology in India. Thus, future studies could determine whether the suggested key factors that influence customer experience persist by monitoring responses in the future when there is no introduction of future technologies. Furthermore, future studies can also examine the applications of this research in other segments of the telecom business where customer experience is a key element in establishing a competitive edge too.

SURVEY COVER LETTER

Enhancing customer experience in the Indian telecom sector – Research Study

Greetings,

I am Sanjay Upadhyay, pursuing Doctorate in Business Administration from the Swiss School of Business and Management, Geneva.

I am a researcher on the topic mentioned above, and I invite you to participate in my research study. This will not take more than 10 minutes of your time, and I thank you in advance for your participation.

This survey consists of 20 questions. Please answer the questions as honestly as possible.

Your answers will be completely confidential, and participation is strictly voluntary. By answering the survey, you are providing consent and agreeing to participate in this study.

I thank you for taking the time to support me in my educational pursuit. If you have any questions regarding the survey, please contact me at sanjay2@ssbm.ch

SURVEY DEMOGRAPHIC INFORMATION

1. What is your age?

- 12-18 years
- 18-30 years
- 30-50 years
- Above 50 years

2. Where is your home located?

- Village
- District place
- Town
- Metro City

3. What is the prime Purpose of your mobile usage?

- Business
- Study
- Social Media
- Gaming

4. Who is your telecom operator?

- Vodafone
- Jio
- Airtel
- BSNL

5. How long have you been using your operator?

- 6 months - 1 year
- 1-3 years
- More than 3 years

Price as a factor impacting customer experience:

6. Which of the following will enhance your telecom operator experience?

    (Choose any 3)

    - Network experience
    - Competitive Price
    - Store and gallery experience
    - Billing and self-service experience
    - Customer care experience
    - Marketing and Sales

7. What frequency of price plan hikes will deteriorate your customer experience

    (Choose 1)

    - Once in a year
    - Twice a year
    - Four times a year

8. What is the price difference per month which will trigger you switching

    telecom operators?

    - 10-50 Rs.
    - 50-100 Rs.
    - 100-200 Rs.
    - More than 200 Rs.

Practical solutions which will help in elevating the customer experience:

- **Pro-active Customer Care**

  9. Do you receive an alert before a network outage?

      a) Yes

      b) No

10. If yes, is the notification time sufficient to plan yourself?

   a) Yes

   b) No

   c) Not Applicable

11. How much advance notice do you require for the outage to be well prepared?

   - 0-3 hours

   - 3-6 hours

   - 6-9 hours

12. What do you expect as compensation for network outage loss

   - Increase the validity of the current plan end date

   - Bonus points to spend on VAS

   - Free X GB of data

   - Free access to 5G network

- **Local Language Customization**

13. Do your operator application and website support your local language

   a) Yes

   b) No

14. Does the lack of local language support affect your experience with a telecom operator?

   a) Yes

   b) No

15. Would you prefer audio notifications in your native language instead of text notifications?

    a) Yes

    b) No

16. Would you be willing to pay less than 5% of your monthly bill to have your local language supported on the website/app?

    a) Yes

    b) No

- **Special Days Delights**

17. Do your operators delight you in any way on special occasions such as birthdays and anniversaries?

    a) Yes

    b) No

18. Would you look forward to free services from your operator on your special days like Birthdays and Anniversary?

    a) Yes

    b) No

19. What kind of free services would you like to receive from your operator on your special days?

- Free Unlimited Calls
- Fee 10GB of Data
- Upgrade to a higher/faster network

20. Would you recommend the telecom operator to your friends/family if you availed above benefits on your special days?

a) Yes

b) No

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