Service Quality & Performance Improvements in Telecom using Data Analytics

Thesis Submitted for the Award of the Degree Of

DOCTOR OF PHILOSOPHY

in

Management, Marketing

By

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PUNJAB

February 2025

DECLARATION

I, hereby declared that the presented work in the thesis entitled "**Service Quality & Performance Improvements in Telecom using Data Analytics**" in fulfilment of degree of **Doctor of Philosophy (Ph. D.)** is outcome of research work carried out by me under the supervision of **Professor Dr. Pavitar Parkash Singh**, working as **Professor & Senior Dean**, in the Mittal School of Business of Lovely Professional University, Punjab, India. In keeping with general practice of reporting scientific observations, due acknowledgements have been made whenever work described here has been based on findings of other investigator. This work has not been submitted in part or full to any other University or Institute for the award of any degree.

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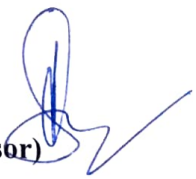
CERTIFICATE

This is to certify that the work reported in the Ph. D. thesis entitled "**Service Quality & Performance Improvements in Telecom using Data Analytics**" submitted in fulfillment of the requirement for the award of degree of **Doctor of Philosophy (Ph.D.)** in the Mittal School of Business, is a research work carried out by Saumya Choudhury, 41800897, is bonafide record of his/her original work carried out under my supervision and that no part of thesis has been submitted for any other degree, diploma or equivalent course.



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Abstract

Service Quality (SERVQUAL as popularly known) and Service Performance (SERVPERF as popularly known) - two most common service assessment methods typically used for modeling the influence of service on the overall customer experience. These models are in place since 1983 and later modified in 1985. Although it got modified several times after that, these two are the major basis of these theories. The rationale of this study is to scrutinize comprehensively the tried & tested multi-dimensional approach for SERVQUAL & SERVPERF, as that means to catch the customer minds about the service perceptions with respect to the defined five dimensions (RATER model) *[Parasuraman et al., 1991]* to gauge the actual game "Customer Experience". Moreover, the basic question is, what is the need to have another framework which can delve into yet another structure within the realm of entirely distinctive sets of considerations. In the Telecom field the researchers from industry or the researchers from academia working in this area are aware of the gap exists in the area of actual customer expectations, relevant service quality standards & policies, service performance index and the service delivery model so as the validity of all these in today's new technology scenario, as well as to debate on the very inherent structure that exists and re-defining those to make those up-to-date to the exact demand for the modern telecom world. The purpose of the study is to establish the hypothesis on how the amended service quality & performance could lead to better customer satisfaction based on these new scales. In this study, a customer survey will be done, and the result will finally be analyzed to see if there is any direct link between SERVQUAL & SERVPERF and the customer satisfaction.

As we face the pandemic due to Covid-19 in late 2019, it has turned down the world completely. Considering the exponential economic & health crisis, industries barring very few, almost scrambled to run their daily operations and the ways of working they follow. In no time all the models, based on which they are relying upon their assumptions about their customers, which includes their customer's buying patterns e.g., when the selling curve rises or falls, what patterns exist whether seasonal or non-seasonal, what product portfolio attracts them to buy etc. Almost immediately after the outbreak, brick & mortar stores witnessed zero footfall due to panic, e-commerce sales started rising, and customer care center interactions exploded. Meanwhile, the

new industry normally defines the new consumption pattern as people started working from home, spending more time online, virtual interaction with others etc.

The new service ideology talks about the value that can be delivered to the customer; how the customizable services can be offered according to the need of the customer as a result of that customer would like to spend on the service more often or can be a devourer of that service. In business terminology this means improved competitiveness. Services can also be offered as hybrid services, as for example a typical car services company who provides the regular servicing also can repair and change the parts and accessories if need be.

Customer endorsement of a product or service offered is basically the response to the liking or disliking centered on the perception of that offering's performance vis-a-vis the expectation. Customers, within the limits of their resources, want to purchase a product or service from which they think they could get the highest return-on-investment. In a way customer satisfaction is tightly linked with the product and/or service quality & performance with the perceived expectations. These are constantly watered into customer minds at each time they encounter the service. If a customer is not satisfied with the kind of reply they are getting during their communications with the service provider or the performances of the services rendered are very poor according to their perception, customers will have the propensity to leave the service provider in quest for a better one. Service Quality & Performance are nothing but an evaluation of the delivered services that follows the customer expectations.

In telecommunication, a communication service provider's (CSP) role is to essentially provide the basic and advanced communication facilities like base telephony, internet, IPTV, IoT, Smart Home, Smart City etc., which customers can consume against their type of subscriptions like fixed (wired and wireless), mobile, value-added services etc. Service delivery in the telecom world broadly discusses the level of the customer satisfaction to the rendered services by the CSPs. This is broadly dependent upon the telecom infrastructure (network and IT infrastructure both) of the CSP (different scenarios like they own it or on rent or a revenue share model to another enterprise) and on their operation model. Usually, the service performance is measured by the term of QoS (Quality of Service). The standard framework like SERVPERF and SERVQUAL with proper customization for telecom can be used for measuring service quality & performance.

In telecom, research shows [*Brandon Purcell, 2018*] that service outcomes are mostly influenced by many environmental & eco-system factors such as pricing of the products or services, inconvenience of services if any, failure to establish the proper communication channel, cutthroat competition, ethical or policy related issues, instinctive transfer of plans etc., cause customers to switch services. Continuous and accessible service delivery is the perfect scenario for any service organization. Marketing research further revealed a comprehensive set of guidelines to improve service quality. Examples are collection of feedback and plan improvement, basic service availability, proper service design and recovery can establish the aforesaid guidelines and can stress upon the much-expected goal - managing customer expectations with integrating the self-service technologies.

In this study I am going to check the validity of new models prepared for the telecom service providers and how the different use cases are fitted into the system. How effective this model is in identifying the loopholes of the service delivery model of any organization (which are completely different from the classical SERVQUAL & SERVPERF dimensions) and how the data analytics method can help. The service quality and performance measurement will be done through new dimensions and items customized for the telecom industry. A customer model is developed through the focused group discussion of different industry veterans. Finally, the idea is to put forward the suggestions on how the services can be better and how a win-win situation for the organization and the customers can be drawn.

Keywords: SERVQUAL, SERVPERF, Service Delivery model, service design & recovery, Customer Satisfaction/Expectation/Perception, Communication Service Providers, Quality of Service, Infrastructure etc.

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List of abbreviations

#	Abbreviated	Acronym
1.	3PP	Third Party Product
2.	4G/LTE	4th Generation/Long term evolution
3.	ANOVA	Analysis of Variance
4.	ATPFAR	Awareness, Trust, Personalization, Fulfillment, Assurance and Re-modeling
5.	B2C	Business-to-consumer

6.	BOFU	Bottom of the funnel
7.	CE	Customer Experience
8.	CI	Confidence Interval
9.	TSP	Telecommunications Service Provide
10.	CCR	Customer Care Representative
11.	CX	Customer Experience
12.	EBITDA	Earnings before interest, taxes, depreciation and amortization
13.	eTOM	Extended Telecom Operations Map
14.	FMCG	Fast Moving Consumer Goods
15.	HBR	Harvard Business Review
16.	IT	Information Technology
17.	IVR	Interactive Voice Response
18.	NPS	Net promoter score
19.	OTT Services	Over the top services
20.	PCA	Principal Component Analysis
21.	P & L	Profit and Loss
22.	SP	Service Performance
23.	SQ	Service Quality
24.	SERVQUAL	Service Quality
25.	SMS	Short Message Service
26.	SPSS	Statistical Package for the Social Sciences
27.	TRAI	Telecom Regulatory Authority of India
28.	TM Forum	Tele Management Forum

29.	VAS	Value Added Service
30.	IVR	Interactive Voice Response
31.	AWA	Awareness
32.	TRU	Trust
33.	PER	Personalization
34.	FUL	Fulfilment
35.	ASU	Assurance
36.	REM	Re-modelling
37.	SERVPERF	Service Performance
38.	IoT	Internet of Things
39.	5G	Fifth Generation Network

Chapter 1: Introduction

1.1 Overview*:*

Customer Experience has now become a "buzz" word these days as the industry is focusing more on it from the traditional Customer Relationship Management (CRM) perspective [*Stefanou et al., 2003, Business Process Management Journal, Vol. 9 Issue: 5, pp.617-634*]. The purpose is to explore the objectives of customer experience strategy in the light of Service Quality & Performance, how the different parameters influence the customer which can, in long run, generate revenues, greater customer satisfaction, reduced churn, less help desk persons etc. The goal is to analyses the different variables of customer experience and determine how data related to those variables are important in taking the decisions, whether short-term or long-term [*Meyer and Schwager, HBR 2007*].

Rigorous attention to take the proper strategy in product design and quality assurance translates that there is virtually no difference in the quality or effectiveness between the brands found in most product sectors. The speed, variations of products, endless aisle options, transparency etc., of the online marketplace means consumer decisions today (even about offline purchases) are all about price, experience, reputation, word of mouth etc. [*Sujata Joshi, 2014, Procedia - Social and Behavioral Sciences 133, pp 392 – 399*]. Organizations have emphasized points where they interact with the customer—the momentarily interactions that customers have with the organization and its offerings on their way to purchase and after. Some of those moments can be very enjoyable but the narrow focus can create a distorted picture, suggesting that customers are happier with the company, than they are [*Hulta et al., Journal of Retailing 95, 2019, pp 10–23*].

Most of the time product/service marketing teams are so focused on creating the right and focused messaging to create unique experience that they often tend to forget the basics of any successful business transaction: end-to-end solution of a problem. Most of the time Organizations stopped focusing on all the ways they can engage with their customers, specifically, all the digital ways. Unfortunately, newsletters, Facebook posts and push notifications will not make any sound if a company is unable to meet the consumer's most basic requirement: an easy and efficient way to get the expected service.

Excellent customer experience starts from untiring commitment to customer needs. Mostly it includes repeatedly providing unambiguous and memorable experiences, unmatched personalization, and intuitiveness. It starts from the persons who deliver the service to the customers, but never ends, even after the customer is long gone (sometimes to never return) [*Mark D. Uncles, December 2006*].

Figure 1 Common Eco-system for Customer Experience

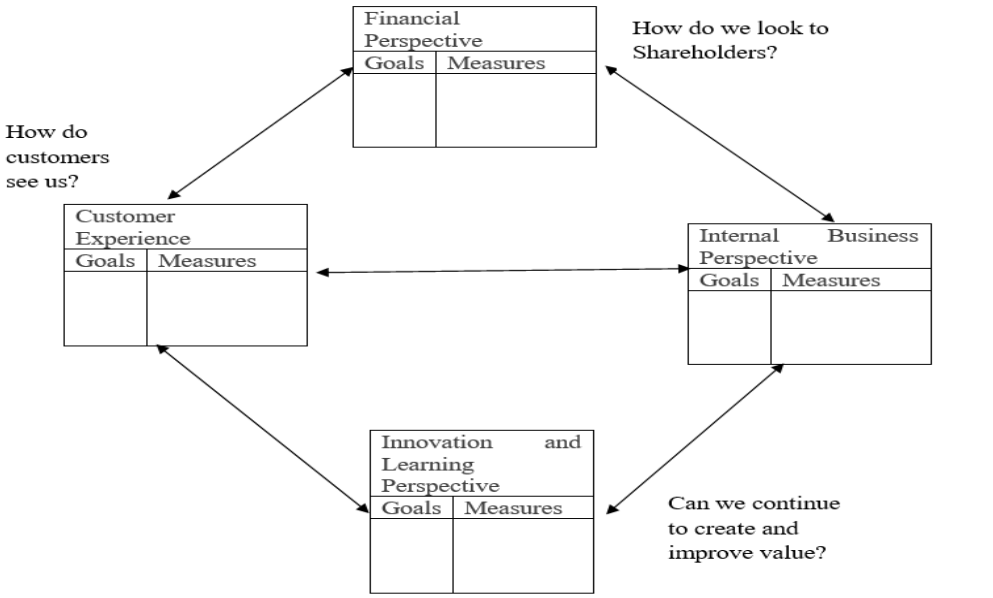


Figure 1. [*Source: Robert S. Kaplan and David P. Norton HBR]

A very big limitation of the balanced scorecard is that it depicts a "false sense of data". Even if the leadership team has small amount of data, it can easily be assumed that they are armed with enough input to make aggressive decisions. Since the data is simply not enough to build the data intelligence, it can invite hubris. In some scenarios, the presence of little data is worse than no data [*Matthew Dixon, HBR, 2018*].

According to balanced scorecard the "perceived wait time" is higher than normal and creating likelihood of negative experience. The customer score can show that more attention is required for the store however it also undermines the fact that it is one of the best revenues earning outlet in the country.

At the same time, a similar type of store at the suburb area, where interactions are not that much, may have a higher score, despite the fact, that it is not performing as well as the

Connaught Place branch. The hard reality of the balance scorecard is that, with its' original form, it has the potential to punish the most economically valuable businesses.

Companies often find these low scored location specific stores are outperforming the high scored stores. The reverse is also holding the ground in many cases. However, some stores which actually very high performing in revenue are, coming low performing due to the uncontrollable operating conditions. When the high performing managers and employees suddenly come under increased scrutiny due to incomplete scorecard data a sense of non-recognition comes to the mind immediately, leads to low motivation.

Consumers are these days better educated and well informed before they want to purchase any product/service, and they have the tools to verify companies claim and seek out superior alternatives. Industry has now moved on from just maintaining Customer Relationship as part of such assessment of service delivery towards Customer Experience Management. For any organization designing and delivering products or discharging services to their customers, it is imperative to understand the multiple touchpoints of the customers starting from exploring the varieties of products and services followed by the choice of appropriate ones, then to make payments, to lodge complaints, to get the problems resolved and to provide feedbacks [*Elrahman Hassanein, 2018*]. All these interactions between the organization and a customer over a period, when combined represents the customer experience. The service industry is constantly shaping up due to the variance of market economies. In Telecom domain, personalized offerings and standardized network have made it difficult to differentiate between the price of the offers or the quality of the services. Therefore, Telecom Service Providers (TSP) would attempt to differentiate the experience they create. The experience would encompass both the digital platform as well as the traditional brick and mortar high street shops [*Phill Brit, 2019*].

New technologies like metaverse offers a unique opportunity to transform the consumer experience by enhancing interactivity, personalization, and engagement. It empowers consumers in three keyways: enabling new product discovery, merging physical and virtual experiences, and strengthening brand connections through AI-driven "digital humans." Leveraging insights from both virtual and physical spaces will be crucial for marketers, designers, and CX professionals to better understand consumer behavior [*Mark Purdy, HBR,*

2023]. Also, cutting edge technologies like Machine Learning enhances customer experience by predicting behaviors and personalizing products and services. When used ethically, it helps reduce information overload by delivering relevant content, better recommendations, and less spam. These improvements not only benefit customers but also drive business success by increasing loyalty and retention, ultimately fueling growth [Eric Siegel, HBR, 2023].

A. Parasuraman et al mentioned in their paper that the service quality is assessed during the delivery of service to the consumer and interaction(s) with each of the consumer throws an opportunity to either satisfy or dissatisfy the consumer and can create a moment of truth. That paper defines the co-relation between customer satisfaction and service consumption as the comparison of the perception of the value received from the service to the overall expectation of the value from that service itself. When the performance of the service or experience of consuming the service comes lower than that of the expectation, the customer becomes dissatisfied and on the other hand when it matches or exceeds the expectation, the customer becomes satisfied. The customer gets highly satisfied or delighted only when the experience exceeds expectations. Service Quality is the perceived value of a customer with regards to a service is the difference between the prospective customer's assessment related to the costs & benefits of a service offering and that of the perceived alternatives [*Parasuraman et al., 1994*].In addition, Parasuraman et al, led to the development of SERVQUAL which a multi-dimensional research instrument, basically designed to capture customer expectations and their perceptions for a service along with the five dimensions which are to be believed to represent service quality. Based on this service quality model, many researchers zeroed on these five determinants of service quality, where the importance is on descending order.

Reliability – Customer's perception about the service to achieve the goal consistently and precisely as per the promise made to the customer.

Responsiveness – The readiness to help customers and deliver prompt service, if need be.

Assurance – The confidence of the organization which is a true depiction of the knowledge and courtesy as well as the abilities.

Empathy – The way customers get the undivided, the individualized attention, the expected caring.

Tangibles – The look and feel or the esthetics of the infrastructural facilities, physical equipment, communication materials and stuff [*Parasuraman et al., 1994*].

Since researchers identified the SERVQUAL framework has some flaws another framework called SERVPERF came into picture which measured the same quality as an attitude but not as a satisfaction. Basically, SERVPERF was a modified version of SERVQUAL which used the same five dimensions of service quality, but the items underneath was different. Extensive research showed that the outcomes of a service were influenced by a gamut of host factors such as Service Pricing, Inconvenience of the Service, Service Encounter Failures, Response to Service Failure, Competition, Ethical Problems, Involuntary Switching that cause customers to switch services etc. Continuous and consistent service delivery is the ideal scenario that any service organization is looking for. Extensive market research further unearthed a wide range of procedures to Improve Service Quality. Continuous Learning from the Situations, Proper Listening, Reliability, Basic Service Design and Prompt Recovery process constitute the aforesaid procedures and emphasis upon handling the customer expectations and more of incorporation of Self-service measures [*Parasuraman et al., 1994*].

While SERVQUAL and SERVPERF have been instrumental in advancing service quality research, their limitations highlight the need for complementary approaches. Researchers and practitioners should consider integrating these models with other tools, such as qualitative methods or industry-specific frameworks, to gain a more holistic understanding of service quality. Additionally, adapting these models to account for cultural, emotional, and contextual factors can enhance their relevance and effectiveness in today's diverse and dynamic service landscape. . Some of the key shortcomings associated with both are the following:

1. Cultural Bias:

Both models were developed in Western contexts and may not fully account for cultural differences in how service quality is perceived and valued in India as Indian customers have different behavioral patterns and expectations.

2. Diverse Customer Base:

The Indian industry situation serves a highly diverse population in terms of literacy, digital familiarity, urban vs. rural divide, and purchasing power. Homogeneous service quality models may not fully reflect these differences.

3. Quantitative Focus:

Each of the models SERVQUAL and SERVPERF depending heavily on quantitative data, which may overlook qualitative insights that could provide a deeper understanding of customer experiences.

4. Incapability to Capture Emotional Aspects:

Neither SERVQUAL nor SERVPERF can explicitly address the emotional or relational aspects of service interactions, which can be critical drivers of customer satisfaction and loyalty.

5. Industry Domain-Specific Limitations:

While both models are widely used, they may not be equally effective across all industries, particularly in highly specialized or evolving sectors like technology or healthcare.

Many Business-to-Consumer (B2C) companies have attained the mastery to address the basic human emotional needs, like personal appreciation, to generate unique customer delight and emotional bonding in interactions that customers would normally look as commonplace.

1.2 Title of the Work:

The title of the research is "**Service quality and performance improvements in Telecom using Data Analytics**".

1.3 Significance of the Study:

Many Business-2-Consumer (B2C) companies have mastered the skill to address the basic human emotional needs, like personal appreciation, to generate unique customer delight and emotional bonding in interactions that customers would normally look as commonplace.

Example 1: Google Lens is developed by Google as an image recognition technology, used to bring up the relevant information of the visual objects by analyzing on a neural network. Without getting into the technical nitty gritty, it can safely be assumed that it satisfies the immediate need of the consumer with right information [*Jaja Liao, 2017*].

Example 2: Netflix is another example of customer satisfaction with a net promoter score (NPS) of 54. A high NPS means more customer satisfaction, high brand advocacy etc. Whenever any Netflix subscriber, Norm, face any issue with any video and wants to chat online with customer care of Netflix, the service representative introduces himself as "Captain Mike of the good ship Netflix". With this conversation, the problem gets resolved but resolved in Star Trek style [*Hoolio, Jul, 2017*].

Example 3: The NPS is very high for Apple almost in the range of 70-75, which is way above the other consumer electronics companies. Apple could achieve this high number because of many focused initiatives like relieving the anxiety of purchasing of such a high value product by its' unique customer service, very high attention to details, constantly focusing on employee satisfaction etc.

Example 4: Bucket pricing technique is used by many telecom service providers in mature as well as emerging markets, to capture the more share of wallets, which is a win-win for both the operators and the consumers. In USA, AT&T is actively pushing for multi-devices bucket plans where new devices can be added later to the one data plan. In India Reliance is also promoting the family bucket plan where a family member of three can share the 3GB data plan among each other, above the free talk time [*Kalyan Parbat, 2016*].

The examples mentioned above show how different successful companies, have taken different customer satisfaction strategies, to generate ringing revenue. All the companies must have done customer studies before introducing something innovative to the market which help them to outdo their competitors.

The study aims to touch how the customer expectation varies in TME (Telecom, Media and Entertainment) business and how to be built upon the strategies on the captured data.

Chapter 2: Review of Literature, Gap Analysis & Research objectives

2.1 Literature Review:

Around 156 literature review is done. It is done on different industry verticals (like Telecom, retail, Supply Chain, Healthcare, Finance, Education etc.) to find out the different strategies adopted for the betterment of customer experience. During the literature review different themes came out which are the drivers for the customer experience to produce positive or negative outcome. Those are described below along with the excerpt of the literature study.

Theme 1: Influencing service quality & performance parameters to deliver exceptional and differentiated customer experience

Clay M. Voorheesa, et al. (2017), explained that Service Experience Blueprint (SEB), which is a multidisciplinary method to design multi-interface services experiences and demonstrates its application with the help of two cases studies that deal with the redesigning of service experiences of a multichannel bank. The SEB method commences with the study of customer service experience to understand the customer experience requirements associated with different

service activities, and the effectiveness of alternative service interfaces in terms of satisfying these requirements. With the aid of the analysis, the **multi-interface service** is designed with the aim to provide interfaces with service activities that are the best suited to deliver desired experiences and defining **channel specialization and integration**. The SEB method is finally used to design each service interface in a way that allows it to leverage its unique capabilities and offers guidance to the customers on alternative service interfaces that is better suited for an enhanced customer experience. The SEB method incorporates the contributions of **interaction design, service management** and software engineering, which makes it a multidisciplinary tool and terminology for service design. It is crucial for firms to understand customer experiences and the customer journey over the course of time. Customers have the option to connect with firms through numerous touch points via multiple media and channels, and therefore customer experiences have become more social in nature. There is a need for firms to react to these changes by integrating multiple business functions, including the external partners with the aim to create and offer positive customer experiences, and study why there is a need to understand the holistic aspect of the customer behavior and not focus on one or two touchpoint interactions. While taking the customer satisfaction seriously, companies need to first understand their current performances and find out the root cause of the problems happening. An initial bottom-up analysis is very useful in this situation as this can give the exact view of the problem lies into the system. Even if the system is working perfectly still need to do the review periodically as the competitors might come up with an innovative way to lure the customer and it is always favorable to reduce the churn than going out to acquire new customers (p269 - p280).

Study of *Hulta et al., (2019),* aim to enhance the understanding of customer experience, and especially the customer journey with respect to the **progressively complex multi-channel customer behavior**. This multichannel cannot answer the requirement of factors for the customer satisfactions, and their loyalty which negatively impacts the bottom line. The hypothesis is made strong by using ACSI (American Customer Satisfaction Index) model which shows the **purchase-channel differences**. It can also talk about how the online & offline purchases are different in nature, how customer perception triggers the customer satisfaction, how the perceived service quality can drive the satisfaction, during online purchase customer always thinks about the ease ness and how the journeys are affecting it, how the retail categories and the demographics of the customers are inter-linked. To accomplish the objectives, the

authors examine the prevailing concepts and definitions of customer experience and deliver a historical perspective of the roots of customer experience in the realm of marketing. Subsequently, they integrate the current understandings of customer experience, its management and customer journeys.

While talking about the experience framework *Ashari et al., (2014),* explained how customer satisfaction is dependent upon the service encounter which finally draw the resultant on customer experience. The CEF framework generally depends upon five layers which are interacting. The layers are:

- Customer values, wants, needs etc.
- Customer behaviour change.
- Experimental marketing strategy.
- Customer experience stages.
- Accumulated customer experiences.

The customer journey experiences are divided into **pre, during and post** categories. The purpose of the study is to prepare a proper framework to understand the customer journey starts from individual's need, value, wants to interact with the organization's customer experience strategy and finally resulting to a positive or negative change in behaviour.

Study of *Stefanou et al, (2003):" CRM and customer-centric knowledge management: an empirical research",* talks about the present-day challenges presented by globalization. The advancements in information technology are now forcing organizations to turn their focus to customer satisfaction, to efficiently improve revenues, reduce churn etc. This paper bases its research on a mail survey that was addressed to the 1000 largest Greek companies. The purpose of the research was to explore whether enterprises carry out customer satisfaction systematically or not or complaining about behavioural research and how the impact is measured on the kind of the information system used, how the attitude of supervisors towards the customer Knowledge Management practices. Additionally, a conceptual model of Customer Relationship Management development stages is recommended. The conclusions drawn from the survey highlights that about half of the subjects of the sample organizations do not have a CRM philosophy. The remaining half leverages processes to conduct customer satisfaction surveys and other customer

experience research activities. Additionally, it has been observed from the findings that supervisors are in favour of CRM processes, but there is a mismatch between the kind of information systems being used and the scope of the customer satisfaction research being conducted.

Study of *Constantinides, (2004): "Influencing the online consumer's behaviour: the Web experience"*, talks about the main issue of online marketing: how customers can be won over in this exceedingly competitive digital realm. What are the **customer experience parameters** that are creating the difference and what impact they leave on customer's mind on the e-marketing space? How the virtual interaction needs to be created which can really mark the behavior of an online consumer? How can the outcome of **virtual interactions and buying processes** be influenced by e-marketers by putting their focus on marketing elements that shape the virtual web experience for customers? The key is to identify those critical experience components over the web and to understand the role it plays as inputs in the decision-making process of customers. These could be the pre-cursor in developing and delivering a desirable online experience, which makes the most impact on online users. Online firms that provide a superior **virtual experience influence the attitudes, perceptions**, browsing patterns of its physical clients, including the **average time spent** on each site, and thereby driving more traffic towards brick-and-mortar outlets. This fuels the debate around the **experience parameters** that influence the behavior of online consumers and draws clear similarities and differences between the virtual and traditional consumers.

Study of Slease et al, *(2017*): "*Call Length Is the Worst Way to Measure Customer Service*", tells that AHT (average handle time) or talk time is an artefact of the service world. A customer can surely hear the time marking. This talk time is nothing but a killer. It is an old concept. Though now It is used as estimating and preparation metric. This is a very useful measure for evaluating organizational performing and talks about **customer care and simplicity of the offerings** to understand.

Study of *Rucci et al, (1998*): "*The Employee-Customer-Profit Chain at Sears*", talks about the essential feature of the customer-employee-profit standard are not that much difficult to understand. There is a sequence of reason and conclusion running from the behavior of employee

to the behavior of customer, as well as to profits. And it is not tough to know that this behavior depends basically on attitude. To make a customer-employee-profit chain functional, an organization should concentrate on the challenges which comes in three parts. 1. Creating and filtering the customer-employee-profit model and the evaluation system which supports it. 2. Establishing management alignment based on the use of the standard to run the organization. 3. And last but not the least is to deploy the standard to educate with business knowledge and to build trust among the employees.

Study of *Ryall, (2013*): "*The New Dynamics of Competition*", tells that a majority of industries provide firms, its suppliers and the customers with choice on **how value can be created** - a firm may find **new ways to engage existing suppliers & customers or explore options of other customers and suppliers in the market**. The agents can also leverage similar options to transactions with firms and their chain of suppliers and customers. In reality, competitiveness is applied equally to all firms, suppliers and customers that operate in the industry: value is realized as a result of a series of activities - A firm engages suppliers for materials, adds a certain value to it and pitches it to the customers. Suppliers and Customers, in turn negotiate over the purchasing price and the final profitability is determined by the **value a product provides at the given price when pitted against its competitors**. A firm generally leverages its competitive abilities to charge a premium on the value that can be availed (the minimum, maximum or both). The world of advertising also has a competitive aspect to it - it is generally designed to whet the customers' appetite for purchase.

Study of *Edelman and Geradin, (2016*): "*Spontaneous Deregulation*", talks about the majority of the successful business platforms such as Uber, Airbnb and YouTube are known to sidestep laws and regulations that could hinder their approach. An increasing trend of deregulation can be observed in a lot of industries lately. Uber has launched transportation services in few regions with little regard to licenses, while hosts of Airbnb often evade taxes, and ignore safety and zoning regulations, which generally add to the expenses of the hotels competing in the same area. Some platforms are known to offer prepared food products without adhering to regulations for health inspections, zoning, food safety and taxation, which a conventional restaurant would have to follow for its business continuity. These platforms generally reshape the entire market

while the scope of laws and regulations gradually becomes limited, and the different processes put in place to protect the consumers disappear.

Study of *Subramaniam, (2009*): "*How to Build a Multilingual, Multicultural Customer Experience*" talks that customer service experience is considered to be one of the most critical business differentiators. A majority of organizations, starting from American Express to Zappos, have realized the value addition that can be generated by providing a satisfying service experience to customers across multiple channels. It is common across face-to-face customer service business to provide the **multi-lingual, multicultural customer experience** (**MMCE**), but it is not the case for contact center-oriented customer services. To identify the requirements on MMCE, and to implement it in customer contact centers it is important to understand the broad and varyingly complex categories that customers can be classified into. Some customers are looking for information such as their account balance, some expecting to carry out a transaction such as filling out an online form, while some seek counsel on the different products and services available and suitable to their needs. Additionally, some customers also look to solve problems that they face with their products. It is important to understand what language preferences are chosen by customers, which may different based on the channel of communication. As an instance, a customer might be comfortable to use English for email communication, while choosing a different language for telephonic conversations.

Study of *Caniato et al, (2020*): "*A Financial Crisis Is Looming for Smaller Suppliers*" talks about high-profile liquidations, financing deals, and severe cost-cutting involving big organizations are the evidence of the financial misery formed by the Covid-19 pandemic situation. Although a less seen crisis inherent within supply chains is undermining small and med-sized enterprises (SMEs) and could help to add to the griefs of the world-wide economy. Several ways are there to avoid this consequence. Governments should come forward and provide monetary support according to the needs of SMEs, and large organizations can contribute by recognizing and supporting the suppliers at jeopardy. The government provided relief programs alone is not enough. Larger firms should come forward to assist the minor cash-starving suppliers. This is the strategy to identify the critical suppliers and helping them in this crisis period and help to restart their operations.

Study of *Lee, (2015*): we see in "*7 Steps to Deliver Better Customer Experiences*", the executives were full of ideas when it came to discuss the **promotions**, **marketing messages and strategy for social media**. However, it was not apparent to any of the executives that the process of creating new customer experiences would involve their respective domains. It was the general notion that the design and management of CX is mostly concerned with the marketing concern - implying that the customer's association is mainly with the marketing, while the store is focused only on operations. This is true for most people as they hold a narrow view of customer experience - which, by definition, is the sum total of all interactions that a customer has with the organization. However, even with the full view of the proper CX definition, it is possible for organizations to fail if they do not possess the specific tools to design and manage the approach. A common mistake that is observed in mismanagement of customer experience is the approach of starting with the customer data. A majority of organizations generally target **several customer segments** with multiple needs or driving points, and in the present day, customers interact in more than a single channel and often in a sequence of several channels.

Study of *Borowski, (2015*): "*What a Great Digital Customer Experience Actually Looks Like*" talks about customer experience, which is generally defined as the measure of quality of over customer engagement with an organization via its **products, brand and services**. A strong customer experience is a proven method to generate successful results in terms of increasing sales, more customers and enhanced loyalty. However, a majority of organizations find it difficult to chalk a plan of action that would be the most effective for them. Organizational leaders can achieve these goals by focusing on a very specific area - the digital customer experience. Digital CX deals with experiences that customers have with digital interfaces - such as computers, smart phones, and tablets. However, in a physical setting, the customer experience is vastly dependent on several other factors such as the behavior of other customer, the number of customers in the environment, the overall ambiance - the lighting, temperature, noise and background music and the location itself. In Digital CX, the influencing factor is consistency, which stimulates loyalty. It heavily relies on the internal IT, as opinion-gathering tools help develop an enhanced digital experience over time.

Study of *Stank et al, (2002*): "*LOGISTICS SERVICE PERFORMANCE: ESTIMATING ITS INFLUENCE ON MARKET SHARE*" talks that the research checks the connections among the three aspects of logistics related service performance, which are actually about relational, operational, and cost performance, customer loyalty, customer satisfaction, and market share. Observations of customers of 3PL (the 3rd party logistics) providers used to evaluate 3PL performance concepts. Among them, relational performance is the one most important character in stimulating customer satisfaction. The research confirms the strong connection between loyalty and customer satisfaction, which is identified in the studies before. It also determines an experiential link between loyalty of and a measure of market-share and that is secured with objective and secondary data.

Study of *Kang and James, (2004*): "*Service quality dimensions: an examination of Grönroos's service quality model*" talks that the several dimensions of service quality have received very little attention from researchers till date. A majority of the earlier accepted research works generally favour measurement by Seroquel instrument. With the basis that Seroquel reflects only the service delivery process, the study focuses on the European perspective, especially the **Gronroos model**, which suggests that the service quality has three dimensions: functional, technical and image, with image being the filtering function for determining the service quality perception. Based on the sample of a cell phone service, results indicate that the European model is more accurate in representing the **service quality**, when compared to the American model - which has a limited perception of the dimensions of functional quality.

Study of *Yang and Fang, (2004*): A content analysis of customer reviews of securities brokerage services" talks that the purpose of the fact-finding research is to broaden the understanding of **customer satisfaction** and **service quality** with respect to the online securities brokerage services. The areas of information systems management and services marketing provided a conceptual framework, which along with the study of over seven hundred (700) customer reviews, allowed the authors to explore more than fifty (52) items while considering sixteen key dimensions of quality. The results identified the **key service quality dimensions** that **lead to customer satisfaction** – all of which are related strictly to the standard services, except for the

ease of use. The main factors that can lead to customer discontent are associated with the quality of information systems. Additionally, the major drivers that lead to customer satisfaction or dissatisfaction can be identified at the sub-dimensional levels.

Study of *McDouqall and Levesque, (2008)*: "*A Revised View of Service Quality Dimensions Gordon"*, talks that the research studied the two primary concerns to service marketers: the service quality dimensions and the approach towards the management of service quality. A couple of conclusions were reached based on two factual investigations, one replicating the SERVQUAL while the other leveraging a revised array of service quality aspects: a) **performance measures**, when compared to performance and expectation measures, provide an efficient and superior way to measure service quality; b) **service quality** consists of three fundamental dimensions related to weights, tangibles, and process. The features that increased the usage of services by customers were related to service quality.

Study of *Chowdhury and Prakash, (2007*): "*Prioritizing service quality dimensions*" talks that the study was performed with the purpose to identify the feasibility of generalizing the service quality dimensions. Service providers often fail to identify the amount of sensibilization that should be necessary, and what should be the proper blend of other service quality dimensions, such as assurance, reliability, empathy, role of price and responsiveness. The analysis was deployed in two stages: a) To identify the possibility of a rank correlation, a free listing of the important service quality concerns for sixteen services were done across four service types; b) A two-step cluster analysis was performed to identify natural grouping within the data set for each of the service quality dimensions, which would not be apparent otherwise. Although generalization of the quality dimensions was not possible considering all the types of services together, there were a few major insights for each service type. There were some generalizations that were feasible for different services within the service types, which indicate that providers can consider these observations for designing the service delivery. Based on the two important dimensions - service action tangibility and target of such an action (customer or the customer's possession), the paper identifies the service quality concerns that are important for different service types.

Study of *Rod et al, (2009*): "*An examination of the relationship between service quality dimensions, overall internet banking service quality and customer satisfaction: A New Zealand study*" talks that Service customers of internet banking of national banks in the country of New Zealand have completed a survey. The survey data were examined thoroughly by leveraging the partial least squares (PLS) approach, which is SEM-based. The results were excellent. It showed the significant relationship with the quality of online customer service, quality of the web-based information system, quality of banking product/service, customer satisfaction and the quality of internet banking service.

Study of *Jamal and Anastasiadou, (2009*): "*Investigating the effects of service quality dimensions and expertise on loyalty*" talks that, not much research has scrutinized the results of service quality concepts on customer loyalty. As of now, very little research has examined the direct effect of the skill on **loyalty** and the moderate effect of skill on the link between loyalty and satisfaction. There is a need to evaluate the effects of personal concept of service quality by creating and improving the loyalty of customer and customer satisfaction. The aim is also to investigate the direct and indirect result of the skill on customer loyalty.

Study of *Santos, (2003*): "*E-service quality: a model of virtual service quality dimensions*" talks that the **quality of service** is now acknowledged as a primary aspect of e-commerce. It is easy, practically costless, and feasible to compare products online in terms of their technical features, which is not the case for traditional channels. This is why service quality plays a key role for the success of an e-commerce initiative. With the purpose to discuss and come up with a conceptual model of the key determinants of **e-service quality**, **focus groups** need to be leveraged for investigating different quality dimensions. E-Service quality, has active and inoculative quality dimensions for enhancing hit rates, customer retention and stickiness. The active dimensions include **efficiency, reliability, support, security, communication, and incentives** while the inoculative dimensions are the appearance, structure, ease of use, linkage, content, and the layout.

Study of *Zeng, (2014*): "*Alibaba and the Future of Business*" talks that in September 2014, Alibaba was the world's largest IPO. And now Alibaba has the market capitalization among the

world-wide top 10 companies. Everyone knows the name of Jack Ma, the founder of Alibaba. Alibaba's especial **innovation** is behind this success. The innovation is an ecosystem, which is a community of various type of business customers, who are interacting with each other and with the online platform environment. This ecosystem was simple at the beginning, then the Alibaba executives linked it with sellers and buyers of the products. With the advancement of technology, more business working moved online. It includes advertising, marketing, social media influences, logistics, finances, and product recommendation. Alibaba is not only an online ecommerce organization, it does the same thing what whole sellers like Amazon, Google, Paypal do as well as what the manufacturers do. Smart business arises when everybody gets involved in achieving the business goal.

Study of *Avery et al, (2014*): "*Unlock the Mysteries of Your Customer Relationships*" talks that customers have always had a relationship with brands, but the introduction of sophisticated tools for customer data analysis has now allowed marketing organizations to customize relationship management by introducing a personal quotient. This new advantage comes with its own set of challenges: customer expectations have not changed, and people want organizations to understand the type of relationship they want with a brand and respond accordingly. However, most brands fail to hold up their end of the bargain by failing to meet expectations. This results in a mismanaged and unprofitable handling of relationships - full of blunders that undermine the connection they have with the customers. A customer who expects to be treated as a friend is likely to be treated as a party to a transaction, or even an adversary. Two decades of **research on brand relationships** in multiple industries across the globe has helped us understand how organizations can obtain the information about the type of **relationships customers** are looking for. Based on the substantial progress made by some of the firms, we can demonstrate how companies can unlock the key factors in their customer relationship portfolios and leverage that to deliver as per expectations. A high-achieving professional who is identified as a **loyal customer** by an online retailer explains her frustrations with the company policy that requires her to sign documents during delivery. Since these deliveries are made during the middle of the day and she is not at home for the same, it becomes a difficult option for her. Although she believes that her loyalty would ensure that the organization would want to sustain the bond with

her, she is disappointed with unhelpful interactions with customer relationship managers who refuse to understand the situation and be flexible about the policy.

Study of *Bowen et al, (1994*): "*Make Projects the School for Leaders*" talks that the key to delivering great products is leadership. What defines a great product is its ability to delight and surprise its customers. In order to achieve the **goal of customer delight**, every single **technical aspect of a product** must come together to form a well-built system. The manufacturing process must be competent to produce the requirements set out during design and the delivery of the final product must reach customers in an extraordinary way. If the creation of a great product is followed up by multiple great products, it results in development of a great enterprise. The key to delivering great products consistently is leadership. In a stable environment, it is relatively easier to build a great product. This is because in a stable environment, customers' requirements and the competitors' offering do not change dynamically and drastically over relatively long periods. However, in turbulent and dynamic markets, it is difficult to anticipate the customer perception of a product over two to three years. A large number of product features and how they work together in the system determines the customer perception of the final product. The most important details can be found in the design, specific functions, and aesthetics of a product, along with its manufacturing process - these are the factors that define the quality and reliability of the product and determine the way it would be sold and serviced. The greatness of a product ultimately depends on bringing all the details together in a consistent package aimed at delighting the customers of tomorrow. A new product, aiming real greatness must also be able to build the capabilities that are crucial for the success of its future products, thereby determining the future success of the business.

Study of *Davidow and Uttal, (1989*): "*Service Companies: Focus or Falter*" talks that a few managers think that, to develop an approach for the customer service sounds like meaningless. But the hardcore truth is that, without a proper methodology, it is difficult to develop an approach of effectful customer service to unite all employees or seize the clashes between customer service and corporate strategy or get ways to assess the observed service quality and performance. In a nutshell, one cannot get the initial base without any strategy. Improving a **service methodology** is a very important step in selecting an ideal mix and a balanced service

for various customers. If the service given too little or of wrong kind, customers will leave. Vice-versa if the service offered too much and obviously the right kind of the organization will come to a break or the price will go out of the market. So, giving an extra-ordinary service cannot secure a high return. The actual thing is nothing but a nice balancing. The spirit of any customer service methodology is the segmentation of the needs. For example, the marketing segmentation looks after what the organization or customer need actually, whereas the customer service department emphases on the expectations of customer. All is about a nice balanced strategy.

Study of *Panepinto, (2018*): "*Brands Shouldn't Believe Everything They Read About Themselves Online*" talks that a lot of organizations leverage social-sentiment analysis, the process of algorithmically analysing and categorizing social media interactions, to get a better understanding of the overall customer sentiment about their brands. However, managers that rely solely on sentiment analysis need to acknowledge that customers who share and post about brands are not a true representative of the entire customer base and do not paint the entire picture. Social-media users are mostly young and female, and as research suggests, they are more likely to be extreme with their views, as their motivations stem from strong feelings. It is also important to acknowledge the context of culture while measuring the sentiment. For example, the negative sentiment associated with a large retail banking corporation, who have been found to be creating customer accounts without their consent, would likely be an influencing factor for other brands not related directly. Similarly, when consumer technology leaders must testify on grounds of privacy concerns, the conversation can impact the entire category of brands in the domain.

Study of *Perry et al, (2018*): "*Industrial Firms Need to Give Their Customers a Digital Experience*" talks that the industrial businesses are slow to engage their customers through digital solutions, when compared to their consumer-oriented organizations. The main reason that is often put forward is that the customers are not ready or keen on digital engagement – a notion that has been challenged by a L.E.K research. In fact, the Covid-19 pandemic has led customers to shed their resistance and embrace technology, which has raised expectations for their business partners. Enterprises are now attempting to leverage technology to win customers during the critical pre-purchase phase, especially by decluttering their experience of going through potential solutions and analysing the fitment per their needs. Linde, a global organization dealing in

industrial gases and engineering solutions, provides a perfect case study, by engaging augmented reality (AR) tools to provide customers with a “live” experience of visualizing their cryogenic freezers into the customers’ factory setup. This enables the customers to get the needed clarity on fitment and other production parameters and makes the entire sales process a smoother and faster process for all parties concerned.
Similarly, Azek, a building-products enterprise, came up with a three-dimensional application to help customers visualize the product when the projects are complete. The data captured from the digital engagement is then fed to the Customer Relationship Management (CRM) system, which helps create better understanding of design trends and channel and influencer **touchpoints**.

Study of *Ghemawat, (2017*): “*Globalization in the Age of Trump*” talks that there has been a drastic shift in the geo-political equations around the world, which has been difficult to cope with for business leaders. Countries such as the US and UK, which are the major blocks for open markets are now wobbling, and with events such the Brexit and US presidential election, there is a rise of negative sentiment against globalization. However, it does not bode well for organizations to retreat from globalization and focus only on selling locally. A decade ago, business leaders were enthusiastic about the prospects of a "flat world" and how globalization would help them dominate the global economy. This was proven to be wrong over time, and even the current tide of negativity against it is also an overreaction - which is why it should not be treated as the end of the road for globalization.

Study of *Bertschek and Kesler, (2017*): “*Does Engaging with Customers on Facebook Lead to Better Product Ideas?*” talks that organizations should consider feedback from social media conversations as a source of valuable inputs, often leading to improved products and ideas for new launches. There are several such examples, notably Gillette, which leveraged the social media feedback to launch the novel assisted shaving product. Similarly, Tesla and Airbnb use these social conversations to improve their app and gather ideas for new launches respectively. The research aimed at finding out the social media’s impact on the likelihood of a novel product launch or significant improvement on the existing line of products. Based on a sentiment analysis of the customer interaction on Facebook pages, it was inferred that customers were actually

assisting organizations to stay away from bad ideas. Although the research was limited to small and medium enterprises in Germany, the results indicate the need to leverage social media feedback as part of an organization's innovation approach. Social media should not be limited as a marketing tool for organizations, but also be used to capture feedback from customers, which apart from providing innovative ideas, can also lead to identification of problems in existing products.

Study of *Fernandes, (2021*): "*How to Capitalize On the Coming M&A Wave*" talks that the Covid-19 pandemic has opened new doors of opportunities for well capitalized enterprises to acquire organizations weakened by the economic stress of the pandemic. The economic impact of Covid-19 has exposed a lot of these companies, which are currently afloat based on government relief measures and support programs but will soon look to be acquired once the financial stress reaches the tipping point. The stronger organizations would therefore look to consolidate their market position and view the M&A as an opportunity to add new and complementary capabilities in their anvil, cater to customers with a wider range of technologies and products, or just extend their market share. However, as the statistics overwhelmingly suggest, most mergers and acquisitions fail and end up diminishing shareholder value and company cash reserves. However, there are ways for organizations to avoid a few fatal traps in order to bolster their chances of a successful M&A:

a. Choosing strategic over financially sound: Often, organizations favor "strategic" takeovers, which ultimately amount to nothing. The term "strategic" has no tangible worth attached to it and is often a cover-up for a financial unviable enterprise. Therefore, choosing "strategic" over a financially sensible acquisition can be disastrous for the acquiring organization.

b. Exiting a negotiation over unresolvable culture differences: When an integration fails to take shape and ends up in massive write-downs, it is often that the cultural differences are put to blame. The real problem is not the difference in culture, but the lack of preparation to deal with the same. It is important to note the cultural differences during the preparation phase of M&A and putting in appropriate processes in place to bridge those gaps. The final solution entirely depends on the nature of the merging organizations. While in most cases, it helps to negotiate a middle path over these differences, sometimes the stronger organization also needs to impose their culture to oversee a smooth transition.

c. Outsourcing the valuation exercise to investment bankers: Investment bankers are an ideal fit for financing and roadshows, but they should be avoided when it comes to company valuation. Although valuations are part of their offerings, investment bankers have vested interests in pushing a deal through at a higher value, since their incentives depend on a positive conversion.

d. Not integrating the pre-deal, implementation and post-deal processes: Most organizations fail to maintain a synergy between the pre-deal phase with the transaction and post-deal periods. Firms need to assign detailed responsibilities and stringent accountabilities for a seamless transition between these phases. The team involved in the pre-deal strategies should be accountable for the implementation during the transaction phase.

e. Not executing swiftly and failing to communicate: The lack of communication when mixed with the uncertainty surrounding an acquisition can be disastrous for employees and consumers. The management needs to be ready to deliver bad news, if need be, rather than letting a vacuum of non-information be created. Along with the transparency in communication, it is important to deal with things swiftly instead of waiting around regulatory impediments.

Theme 2: Customer & employee mindset on different situations in the customer journey

Study of Lisa Nirell, (2023): "3 Ways Companies Get Customer Experience Wrong", talks about although the pandemic changes the world upside down and a **new lingo is defined for the customer experience**, many leaders in different organization are still in quandary and design **digital customer experience (CX)** strategies in a way very similar to those strategies in 2019, which creates a dangerous proposition for the organizations to losing customers. As a result, customer dissatisfaction and defections to those organizations are on rise. Some common missteps are mainly three and as following:

1. **Undermining strategic investment in the name of cost control.**
2. **Relying on the old successful segment strategies.**
3. **Do not have a unified Customer & Employee experience strategy and treating them as silos.**

Some suggestions are made to overcome these situations like:

1. **Try to get financial approval from CFO organization while creating the business case on value creation not just cost-cutting mechanisms.**
2. **Integrations of the research on customer experience strategies to the old segment drills.**
3. **Complement alignment of Employee (EX) & Customer experience (CX) goals.**

Study of *Rawson et al., (2012): "The Truth About Customer Experience Touchpoints matter, but it's the full journey that really counts"*, talks about the **touchpoints designed** by the organizations to maximize the customer satisfaction, however this turns out to be a very limited opportunity to interact with customers and make them happy. This kind of **touchpoints satisfaction creates an illusion that the customers are happy** which is far from the truth. The objective of the study is to **identify the cracks of these touchpoints**. Customer satisfaction encompasses many things like call centers, field services, self-services etc. and **each of these things need to add to the customer satisfaction**. More touchpoints create more complexity. Here the authors try to formulate the problem, on how companies are happy with one or two touchpoints but missing the bigger customer picture, to the argument, how the right customer experience can bear the fruit, to the solution, about the top-down strategy and bottom-up data

analytics together can solve the issues. To solidify this, they have made surveys on pay TV and car insurance companies to show how better customer satisfaction generates more revenue.

Study of *Britt*: *"How the Telecom Industry Can Set the Customer Experience Bar Higher",* talks about the importance of **customer care** and how it is directly linked with the **revenue and profit** of the companies that survived a fierce competition in this dynamic environment of mergers and acquisition. It helps to understand the **customer mindset** & how to win the customer by **removing the obstacles to the journey**.

Study of *Mascarenhas et al (2006): "Lasting customer loyalty: a total customer experience approach"* talks about how to understand and deliver the total customer experience (TCE) so that a sustainable long lasting customer loyalty (LCL) can be achieved which is nowadays, exceedingly important considering the pressures of globalization, commoditization, and market saturation in a lot of developed nations.

Study of *Mosley (2007*): The aim of this paper is to evaluate the concept considering its probable contribution to create the brand image that can influence the culture of change and management of customer experience.

Study of *Palmer (2010*): *"Customer experience management: a critical review of an emerging idea",* aims to have the customer experience as a base and critically assess the base to construct and propose a model which can co-relate the **inter-personal relationships, service quality & performance and brand image**.

Study of *Mc Alexander (2007*): *"Transcendent customer experience and brand community",* demonstrates that a TCE (Transcendent Customer Experience) in the context of a marketer-facilitated consumption activity that can fortify the customer's association with a brand community, thereby delivering a robust system of **brand loyalty** basis on **service quality & performance.**

Study of *Dixon* et al, *(2017*): "*Kick-Ass Customer Service*" talks about the **Self-service** concept, which offers organizations a great opportunity to control spending drastically. Most organizations have focused now on **self-service skills**. And they've started to lower invest in front line service endowment. All these create new challenges. Customers handle the simple issues by themselves and as a result now-a-day's reps are stressed with the complex problems. In this world of self-service, the talented reps count the most. Along with this hiring and teaching the controller mindset is highly recommended.

Study of *Slotkin et al, (2016*): "*Why This Health System Offers Refunds to Dissatisfied Patients*" says that the doctor-patient relationship is most respectful. Although it has been noticed that now-a-days this comfortable trust on this "most precious" relationship is being hampered. Compared to the other sectors, medicine's patients are treated less-better according to an experiential standpoint. To improve this situation a development in outcomes is needed. Initiatives should be taken to go further than providing an app that registers complaints and offers refunds to disgruntled customers. Increase in satisfaction is linked with reduced stay time in hospitals, reduced readmission charges, lower minor complications, and reduced mortality.

Study of *Sullivan and Ellner, (2015*): "*Strong Patient-Provider Relationships Drive Healthier Outcomes*", tells that the appropriate aim for any health care delivery structure is to develop the value brought to patients. To efficiently manage the value, both outcomes and **price** should be measured at the point of patient level. The significance of the patient-provider association is obvious at first contact. 'The medical assistants act' as health instructors for the patient and also for transcribers free the supplier to fully cooperate with patients. There is a model for the providers, which allows them to connect with patients through e-mail or phone at the working hour, while medical supporters prep and train patients. The software is 'problem-knowledge coupler', which makes their exclusive workflow potential and effective.

Study of *Garrett, (2009*): "*How Integrated Are Your Customer Experiences?"* talks that a primary factor in the delivery of an integrated customer experience across **multiple channels** is to ensure **synchronization** between all possible customer **touchpoints**. This must be choreographed in a way to create a sense of total customer experience. In most cases, people

misunderstand the multi-channel experience to be a two-channel experience, where the retail store or the phone support pairs with the web to form the "**web-plus-one**". The web-plus-one approach is a good starting point for most organizations, but it is only the first of many steps. The customer psychology and their behaviour need to be leveraged to create experiences far from just the web. However, in a few organizations, there are middle and senior managers, who are often known as "the frozen middle" who often create a resistance to the effectiveness of a good customer experience initiative.

Study of *Lingo and McGinn, (2020*): "*A New Prescription for Power*" talks that sooner or later many leaders realize the effectivity of wielding power is seldom straightforward. After years of research and discussions with the top-level managers and executives, a method has been developed to the power which transcends employing control and assembles others' dynamism and commitment. The prototype of the power emphases on three core aspects, which are **relational, situational, and dynamic**. People believe in a world of recognition. People expect credit and rewards according to their performance. Though the conviction can develop a difficulty to the operational development and the usage of power. While thinking of new positions, leaders should refrain from only thinking about the resources and designations and of the conferred job. They should also think about the culture where they have the opportunity to flourish.

Study of *Bernstein et al, (2020*): *"THE IMPLICATIONS OF WORKING WITHOUT AN OFFICE"* talks that the world has begun to experience the work from home concept from early 2020. It is the mid of the year now and many countries started re-open although covid-19 is still a big threat for mankind. Industries are confused enough if and when the normal thing will come back and how to get the employees back in office. Remote work and working from is there, but not without growing pain. Since the virtual work began, employees find it difficult to maintain the right balance between their worktime and attending meetings. Work stress, negative emotions and work-related issues are always there. The large organizations want back their worker to their office but cannot do it safely and they are bound to adopt the hybrid work environment, which is a combination of office based work and virtual work. Although, many companies see benefit in keeping their offices closed temporarily.

Study of *Ton, (2000*): *"Equality in the U.S. Starts with Better Jobs"* talks that Americans are in demand of an estimation. The unwarranted conditions suffered by very poorly waged frontline workers, who have no other choice but continued to stick to their job during the inevitable pandemic situation, have caused cries for economic justice. Research shows that malicious cycle for the low-paid workers is also a malicious cycle for the organizations. High turnover and poor attendance head to operational issues that weaken sales and profits. Decreased profits stop companies to invest more in their employees, which causes more unpredictability for the organizations and their workers.

Study of *Cappelli, (2000*): "*Stop Overengineering People Management*" tells; as per history, it is true that labour is considered as a commodity, the aim is to shorten it to least. One of the big concerns of organizations was that when market demand wavered a lot, then their employees were somewhat fixed. The workforce number is very hard to reduce when business is down and vice versa. If the top-level executives take away all decision taking power from employee, they do not feel responsible any longer. A very simple and important procedure from the theory of optimization is price differentiation, which could be applied to the beginning salaries. Now the trend is to overlook that the employers, especially with entry-level jobs, used to have a fixed starting salary. Workplace experts know very well that few issues can cause much difficulties in the long run, which includes legal issues rather than paying equal skilled workforce with dissimilar wages for doing the same job.

Study of *Rawson et al, (2014*): "*The Truth About Customer Experience*" shows, most organizations provide a lot of emphasis on **touchpoints** - the critical moments of interaction between the customers and the organization, its **offerings, and services**, right up to the **time of purchase** and then after. Research and consulting on several customer journeys have shaped the observation that the companies that can manage the entire customer experience skilfully often translate that into enormous rewards, which is indicated by increased revenue, diminished churn, enhanced customer satisfaction and better performance in employee engagement. Organizations that researched deeper were able to locate the root cause behind the problems: a majority of customers are not bothered by a single phone call, site visit or any other forms of engagement.

Customers are generally not influenced by a single "touchpoint". Organizations must identify their key customer journeys and examine every single detail, which leads to the discovery of causes of their performances.

Study of *Kriss, (2014*): "*The Value of Customer Experience, Quantified" tells*, the value of providing a great customer experience is recognized by one and all, but for some business leaders, the value of delivering the experience is not always clear, especially when it is difficult to quantify the same. It is true for businesses that are transaction-based or relationship-based subscription models. It is time to end the philosophical debate whether the investment on customer experience translates into a sound business decision. It is hardly a matter of beliefs and has more to do with the behaviour of the customers.

Study of *Yohn, (2016*): "*Design Your Employee Experience as Thoughtfully as You Design Your Customer Experience*" says, while customer experience is a major business focus for most organization, the employee experience does not figure in its top priorities. There is a direct correlation between the **success of customer experience with the effectiveness of employee engagement.** The first step to implement a strategy similar to CX on employee engagement is to segregate the employee base into segments carved out their aspirations and needs. The general principle used to group employees is on the lines of standard classifications such as designations, department, rank, business unit or the region. Organizations can create a segmentation based on strategic classifications to keep up with changing times. As an instance, it would be effective to group employees based on patterns such as observers, participants, skeptics, and champions. This would help organizations understand their distinct needs and further devise a strategy tailed for these needs. Customer experiences are the most effective when they help in bringing out the organizational brand values and objectives. This holds true for employee experiences as well since it helps in forming a distinctive culture within the firm and encourages an environment that attracts the best talents and retains the exceptional staff.

Study of *Kassim and Abdullah, (2010*): "*The effect of perceived service quality dimensions on customer satisfaction, trust, and loyalty in e-commerce settings: A cross-cultural analysis*" talks

that the aim of this article is to investigate the connection in between service quality, trust and loyalty, customer satisfaction in the sector of e-commerce and at the level of constructing dimensions. For that, a survey approach was used. All twenty items were checked thoroughly using varimax rotation and oblique rotation method, to evaluate the dimensions of service quality. It has been noticed that on customers' satisfaction sector the observed service quality felt a great impact. In return customers' satisfaction has a great impact on trust and simultaneously on loyalty. companies can directly enhance customer loyalty by improving the friendly use **technique**, the **security of website** and the **attractiveness**, by using an **e-commerce setting**. In this way, dealers should adapt their **advertising strategies** to prepare each marketing atmosphere because world-wide success of their company is dependent on the function of cultural flexibility.

Study of *Ganguly and Roy, (2011*): "*Generic technology-based service quality dimensions in banking: Impact on customer satisfaction and loyalty*" talks that this is all about the general service quality aspects of banking system, which is based on technology and is to inspect the impression of these aspects on customer loyalty and customer satisfaction. The general service quality aspects are examined by using factor analysis named '**exploratory factor analysis' (EFA) and Customer factor analysis (CFA)**. There are four general aspects of service quality, which is used in technology-oriented banking system. Those are technology security and the **quality of information, customer service, convenience of technology, used friendly technology and reliability**. The customer service quality and user-friendly aspect and reliability factor have a very positive effect on customer loyalty and customer satisfaction. These aspects of service quality should be observed as the switch of improving service quality regarding technology-oriented banking for its present customers.

Study of *Blank, (2020*): "*A 5-Day Plan to Keep Your Company Afloat*" talks that to survive in the crisis of covid-19 pandemic situation, the CEOs of companies can think of a rapid assess this new situation, recognizing new concepts and according to that can act keeping in mind the urgent need, taking immediate action after collecting data and restricting their organizations accordingly. A huge economic sector has shut down in this crisis, such as restaurants, travel, hospitality and so on. The fixed cost business which are dependent on foot traffic have come under

immense pressure. Millions of workers are out of work, flexible purchases such as fashion, furniture, and lifestyle has been suffering badly. Although some other job sectors like constructing farms, law firms, and real estate firms, will also have to suffer. All the operating plan, business model, and recovery plan need to receive the feedback. It is necessary to adjust the philosophy to this new reality, communicating with these new business concept and operating with the changed plan to the employees.

Study of *Roberge, (2015*): "*The Right Way to Use Compensation*" talks that a complicated question that business leaders often wonder is what is the best compensation structure for sales? The ideal strategy is dependent on the context - the plan must suit the type of the business and must be aligned with the state of growth of the organizations. Typically, there are three stages in the start-up cycle, customer acquisition, success that leads to customer retention and attaining sustainable growth. A sufficient number of customers allows us to analyse the progress of an organization towards the "product-market fit" point, where the features of a product and its pricing is in alignment with the current preferences of the market. A major indication that the product-market fit wasn't right is that there was an issue with the customer retention. It is of prime importance for start-ups in their evolving cycle to identify their best customers and the steps needed to make them successful.

In the quest for answers, the data was observed. Every new customer was assigned a post-sale consultant, whose job would be to set the service and train the customer's stuff on its usage. The backing theory was that some of these consultants were better than the others, and the endeavour was to identify these successful consultants and trace their methods and their differentiators, collate them and share the best practices guidelines to the entire team.

An insightful observation was that we needed customers to commit to the adoption of inbound marketing. Organizations can always find different ways to send its message to customers, but inbound marketing needs a lot of work to succeed. The question that remained was how this goal would be aligned with the sales team in an unambiguous way. The answer to that was through advance payment for new customers. The data helped us observe that customers who opt for month-to-month payment structure are not very committed to the overall services and are more likely to move out.

Study of *Smallwood and Ulrich, (2007*): "*Building a Leadership Brand*" talks that leadership brand is important to create a pool of exceptional managers with skills that are distinctly shaped to fulfil the expectations of both customers and investors. Organizations with a leadership brand exhibit the faith that its employees and managers would be consistent in delivering on its promises. The leadership brand is also embedded in the culture of an organization through its policies and expectations from its employees. After observing 150 successful firms of varying sizes over the last decade, we have identified that a majority of these organizations have come up with a similar outside-in approach. This approach helps them develop a pipeline of exceptional managers year after year and also helps them generate steady profits over the years. This is because they have secured the confidence of all the external constituents, who have their expectations comfortably met by the leaders across the board. However, in recent years, a lot of organizations have failed to develop a quality pipeline of true leaders despite having spent millions on their corporate universities. This is mainly because their strategy to develop these leaders is detached from the factors that define the firm in the eyes of its investors and customers. The primary focus of the leadership training is to develop an individual leader, and this is the root of the entire problem. Human Resources and succession-planning teams often tend to focus on identifying and grooming candidates hoping that they will elevate the corporate fortunes. Most organizations defer to the competency model that focuses on the generic leadership traits such as vision, energy, and direction, among others and then identify the potential leaders that fit the requirement.

Study of *Williams and Mihaylo, (2019*): "*How the Best Bosses Interrupt Bias on Their Teams*" talks that organizations expend millions each year on the trainings for no bias. The purpose is to generate workforces more **innovative, more effective, and inclusive**. There are several steps to recognize the four essential ways which the biasness elbowed out every day work related interactions. Those are, proving again and again, tightrope, maternal wall, and tug-of-war. The next step is to identify where and when these types of biasness happen daily. In the non-appearance of an industrial instruction, it is easy to move on not following that. But that is a great mistake. To be a good manager it is necessary to become bias interrupter. To the other hand, according to the research it has been seen that men are more dominant in regard of conversation than women, and also men who are expert, is intended to be more powerful than women.

Study of *Bryant and Sharer, (2021*): "*Are You Really Listening?"* talks that the C-level executives in a firm operate under a central paradox: they have access to almost all lines of communication in a firm, but the information that flows to them is often compromised. While key facts are missed out, and red flags tamped down, they often look at datasets that are spun with a positive point of view. This paradox leads them to a dangerous isolation – often termed as an information bubble. However, the key to break out of the information bubble is to nurture a "listening ecosystem", wherein they listen actively – without distractions or with intent to pass their hastily formed judgement. They need to listen with the sole intent of comprehension and create a set of processes around them to evolve into a state of "hypervigilance" – which then allows them to identify the red flags and the hidden opportunities. This, in turn, allows them to do their job better. For senior leaders, signals can come from various sources and with varying intensity. It could come out from a casual comment from an FDA regulator, stories circulating in the press, board room discussions or even conversations picked up accidentally. By leveraging the art of listening, one can pick the signal from the noise, and operation under certain terms. There aren't many recognized courses on the art of listening available at business schools, but it is an essential component for senior leaders to counteract the various systems under them that lead them to believe that they know everything about the organization and operate under a false sense of confidence and outdated information. However, there are seven simple steps one can follow to create an effective listening ecosystem around them:

a. Shield oneself from blind spots.
b. Practice a flat organizational approach instead of maintaining a strict hierarchy
c. Create an environment where bad news can be shared unhesitatingly
d. Create an ecosystem of early warning.
e. Encourage a problem-solving mindset and acknowledge the progress made.
f. Engage in active listening without an agenda in mind
g. Seek inputs and feedback actively

In one scenario, a CEO tasked his chief HR officer to regularly issue surveys to the leadership team – to gauge their perception of his performance. The survey questionnaire would include questions like, "What am I doing right, and you need me to continue?", "What are the things that I need to stop right away or make significant changes to?" and "What are the things that I need to

start doing immediately?". The survey responses were then transformed into a report, which would then make it to the board meetings for a detailed discussion. While most CEOs would find it unwise to engage in such an exercise, the candidness of this process would not only encourage others to be open about their feedback, but would also allow the CEO to course correct, if necessary.

Study of *Dychtwald et al, (2004*): "*It's Time to Retire Retirement*" talks that the annual growth rate of any country largely depends upon the overall rate of growth of the workforces and the age of them. If the age distribution is shifted dramatically, it effects the consumption behaviours, purchase pattern, choice of goods etc. It augurs well for businesses to have a workforce that reflects on the ethnicity, gender and importantly the age-group of the customer base. This is of further significance when the customers are well to-do.

Study of *Li, (2019*): "*Addressing the Biases Plaguing Algorithms*" talks about the gender biasness that persists in many technologically advanced systems like the AI/ML algorithms. Some of the examples are like Microsoft chatbot Tay which cannot understand the teenage slang and misinterpreted the actual meaning. Gender biasness has a vicious effect on taking the things differently. Another example is from Google whose decisions or insights created based on data is termed as sexist in 2017 while suggesting to their consumers.

Study of *Leonardi and Neeley, (2017*): "*What Managers Need to Know About Social Tools*" talks that there has been a surprising growth in the rise of inhouse social tools like Slack, Yammer, Chatter in the separate technical area and also Jira and Microsoft Teams in the embedded applications area. A large part of these companies adopted on the same lines as their competitors did to get attention of the young talents. On the other hand, unexpectedly, some organizations provided perceptive rationale into their solid business-related cases which manipulated their decisions, that is similar to the methodologies which is taken at the time of taking decision on CRM software applications or simulation tools. Based on research performed on employees of a financial services organization, it was observed that employees with access to internal social tools were more likely to network better and connect with experts in areas where they need help,

while no noticeable improvements were observed in the group that had no interaction with the same tools. There has been a lot of efforts made by organizations over the past two decades to build knowledge management tools but they haven't been met with adequate success. That is because the approach to finding the right experts in the appropriate context cannot be determined by databases, but by leveraging social tools. However, executives generally assume that the youth in the firm would be the first to adopt or pioneer the use of these internal tools, which is rarely the case. The youth, despite being attached to similar social tools such as Facebook, Twitter in their personal life, they do not see it to be a good fit in their professional space, except for career building portals such as LinkedIn.

Study of *Zemmel et al, (2018*): "*How Successful CEOs Manage Their Middle Act*" talks that the leadership journey has three different phases or terms: the early phase, the middle term and the latter stages. Every leader acknowledges the turbulent times the first hundred days or first year in the office has to offer the most important and urgent issues are addressed first while trying to generate a few early wins to build trust and pave the way forward. The latter stages generally talk about the approach to identify the next in line and pass on the responsibilities in a smooth manner. However, the middle term is where the stability comes back after a tumultuous early phase, and organizations generally fall back to the "old normal". As per DuPont CEO Ellen Kullman, it is that point where new vision and planning need to be enforced - to ensure the staff is infused with the willingness to focus and not get run over by competitors leveraging on the stagnancy. A lot of CEOs have testified to the fact that the approach of taking the start of every week as the first day as CEO, or the thought of being fired by the board, can help see things in fresh context and make strategic moves for the organization that suits the best for its customer.

Study of *Nordgren and Lucas, (2021*): "*Your Best Ideas Are Often Your Last Ideas*" talks that organizations are going through unprecedented times, and irrespective of the scale at which it operates, it is pivotal for companies to come up with creative and pathbreaking ideas. It is therefore important to understand the way creative thinking works. It is known and backed by research that the first ideas that come out of an ideation session are not the best ones. It is often through lengthy sessions of brainstorming that a genuinely creative idea comes through. It involves filtering a pool of ideas and then reaching out for the most creative one out of the

potential options. There is a common misconception among people that their creativity diminishes the longer they engage themselves in a brainstorming session. Although, a lot of research indicate that the level of creativity tends to increase or stay at the same level during long ideation sessions, people are inclined to disbelieve their capabilities and fall for what is known as the "creative cliff illusion". On closer study of this phenomenon, one can identify its roots and what leaders must do to overcome the same. A series of surveys were launched, targeted at different sample populations across the country, which included working professionals and university students. The study quizzed the participants on how they thought their creativity would be impacted over the course of a brainstorming session, and a variety of problem-solving tasks were considered for the same. The primary reason behind the cause of the "creative cliff illusion" phenomenon is that people often incorrectly correlate their productivity with creativity. While productivity does decline over the course of a long ideation session (or any session that requires consistent mental energy), it is not necessarily the same for the creative value of the produced ideas. It may become exceedingly difficult to produce ideas over time, but the quality of the idea does not diminish with the decreasing ease of finding them. The ideas that come easily to us are the most common and obvious ones – it is only through constant digging that a novel idea comes through. With the help of the above observations, leaders should focus on a few things that help their teams to understand their creative process better and give them the right incentives to come up with more creative ideas. The first step is to educate the team on the stages of creative thinking and how the process works. The next step would be to build systems that encourages people to ideate longer and come up with late-stage ideas. Which this requires additional time and effort, there is a lot of benefit organizations can get out of longer brainstorming sessions.

Theme 3: Service delivery process leading to better customer experience

Study of *Berry and Carbone (2002): "Experience",* emphasizes on how customer experience is necessary for any organization and how the managers are thinking about it. To understand the customer journeys properly the companies must **first understand the clues that is given to the customer.** Creating **new competency** which will serve the clues to the customers. How to collect the customer experience in a hidden way. An integrated customer experience strategy can

outweigh some of the glitches in the customer product and/or services. This needs to be designed very carefully so that clues can hit the target. **Isolated way of handling the customer will not give the expected result** as the whole ecosystem is needed.

Study of *Levesque* and *McDougall, (1996): "Determinants of customer satisfaction in retail banking"*, highlights the aspects of customer satisfaction and churn reduction (retention) and how they are critical for retail banks. The paper also examines the key inputs to **customer satisfaction and forthcoming operations** in the retail banking sector. It recognizes the key inputs, including the **service quality dimensions**, such as getting it right on the first attempt with the help of proper requirement management, service features like **competitive interest rates, proactively service problem identification & registering**, **service recovery and product used**, **thus by identification of the service quality & performance**. The findings show that handling of service incidents and the response time taken by banks to recover services to operational state have a major impact on the overall customer satisfaction and their propensity to switch.

Study of *Johnston* and *Jones, (2004): "Service productivity: Towards understanding the relationship between operational and customer productivity",* talks about the points that is very surprising that in the service world so little empirical research has happened in service productivity although it has such a big influence on the organizational costs. With the attempt to encourage research of such nature, this paper elucidates a structure that conducts a **productivity analysis in service organizations** by differentiating between **customer and operational productivity**. Additionally, this paper attempts to clarify the definition of 'productivity' and how it is **differentiated** from **utilization and efficiency**. The authors explore the problems in productivity measurement, especially in a service setup, and then attempt to illustrate the counterintuitive association between customer and operational productivity with the help of a few examples.

Study of *Sarkar (1999*): "*IT-enabled organizational transformation: a case study of BPR failure at TELECO"*, talks about how once upon a time telco behemoth who almost monopolistic market presence has failed to implement the **business & service delivery process reengineering**

program due to not having the proper strategy in place. It distinctly explores the development of customer relationships with the help of quality service. Echoing the growing importance of the service economy, the only text that places the customer experience at the heart of its approach is Services Marketing.

Study of *Dixon (2018*): "*Reinventing Customer Service*", tells customer satisfaction is the key to the success of any organization. A happy customer not only stays long but also brings new customers. Team management is needed, and creative solution is mandatory. **Teamwork** can bring innovative resolution to any tenacious service issue. Along with that local connection is also needed to manage community-related-situations. Any organization can experience a rapid success and positive vibes among employees if there is an **excellent professional relationship & transparency** between hard working employees and happy customer.

Study of *Schupbach* et al, *(2016*): "*A Simple Way to Measure Health Care Outcomes*", talks about the success of hard work to develop care delivery pivots on improving a flawless approach for performing measurement. A guiding standard can be a focus to improve the *worth* of the **care** delivered. Generally, value is stated as ratio: the value of outcomes, which is adjusted to the seriousness of a patient's illness, is depending on the cost of treating that seriousness. Improving the value arises by developing quality in relation to cost. Satisfaction is very meaningful. This is not because of quality but because of indicating the **quality of service** should be delivered.

Study of *Almquist et al*, *(2016*): "*The Elements of Value*" tells that customers appraise a **service or a product** by weighing the **apparent worth** compared to the price. Marketers usually focus much on dealing the **price** related thing of that comparison. It is known that raising prices enhances profits, which is often the easiest part. Pricing should consist of handling smaller sets of numbers, analytics, and pricing tactics. The fundamentals of value method outspread the "hierarchy of needs." introduced by Maslow. The thirty elements of value pyramid are the heuristic model, which is very much practical rather than theoretically perfect. Among them '***connects'*** is the value, which was first given by couriers. Then comes the Telegraph, the Pony Express, the internet, the telephone, e-mail, Facebook, Twitter, Instagram, and other websites in the social media domain.

Study of *Reichheld and Rogers, (2005*): According to "*Motivating Through Metrics*", although today's commercial helmsmen is more rational, still they face challenges. Most of the firms have spoken about this issue by securing rewards to the performance of the team and driving customers and employees, in order of performance levels. Success is arbitrated by a metric, named the "**Enterprise Service Quality index**," that shows the percentage of customers' percentage, who give a rate to the **service five out of five**, if they were totally satisfied. This satisfaction comes from the **personalized choice of the product/service**. Metrics help organizations to identify who is not paddling with the team. The object of this trick is to identify the **cultural misfits** and transfer them without discouraging other employees.

Study of *Buell, (2018*): According to "*The Parts of Customer Service That Should Never Be Automated*", the financial side of service mechanization are not universally promising. humans are characteristically social creatures, who get expressive value from interacting with each another. Research show that exclusion of the opportunity for this type of connection can weaken service performance. **Services may be emotional, but technology does not have that quality. Engaging customers through technology only will not work as it does not make similar to human service. It does not enhance customer-employee engagement. Both Technology and human service should be blended in such a way that customer feel completely satisfied and that can only be achieved by the right processes bridging those.**

Study of *Berry, (2017*): "*How Service Companies Can Earn Customer Trust and Keep It*", shows that being observed as not reliable or inequitable is an unquestionable way for any service company to lose the faith of its customers. Organizations which serve the stressed customers, are particularly vulnerable to lose any customers' faith especially when they perform poorly. The most important issue, which should be taken care of is gaining faith and keeping trust. The organization should be more sympathetic and careful of the honorable customers' "**perceived contract**" rather than the organization's legal contract. Employees must be generous with customers and should keep the promise one makes to the customer. If for any reason the **service fails**, the service delivery person should include a proper explanation with an apology for the same. A good marketing is one of the traits of successful business. Organizations should use realistic slogans.

Study of *Merholz, (2009*): "*Four Customer Experience Lessons from Target's ClearRx*" talks that a good design might happen inside an organization all the time - a fact that is missed by many. In fact, some organizations who consistently come up with **good designs** are never associated with designs in the first place. Target has been successful in bringing out a **great design** in the market. The ClearRx story provides quite a few good lessons for someone looking to deliver great experiences. The design for ClearRx is excellent, the typography is neat and clear, and the colour coding stands out on the flat surface, which makes for easier reading. In order to leverage Target's supply chain, the bottle design had to be completely redesigned, which meant that aspects such as colour coding in the label would make way for coloured rings. However, most service organizations do not want to relinquish control over these aspects, especially to customer-facing staff. It is mainly due to that fact that the front-line employees are considered lowest on the totem pole and therefore cannot be trusted to make right decisions.

Study of *Jacobides and Reeves, (2024*): "*Adapt Your Business to the New Reality*" says**,** the global consumption has taken a severe toll due to the ongoing Covid-19 pandemic. This has forced, or rather permitted people to adopt new habits and unlearn a few old ones. Organizations that seek to come out of the global crisis strongly should create an understanding of the changing habits. For a majority of organizations, it would mean that a completely new process be established that identifies and assesses the shifts before it becomes an obvious path. Traditionally, most retailers have relied on the quality of their store services to provide value to its customers. However, in the current scenario, companies need to come up with a strategy for providing a digital experience with the aim to replace the current store experience. The firm's store beauty advisors turned to influencers in the digital world. The pandemic has induced a shift to digital shopping and this in turn has made organizations and customers rely on large digital platforms such as Apple, Amazon, Google among others in the West, and Tencent, Alibaba in the Asian region. A new group of companies have come up to rival the established ones - namely Meituan from China, Grab from Singapore, and Yandex from Russia. The digital platform is now a determining factor in a firm's competitive capability.

Study of *Shostack, (1984*): "*Designing Services That Deliver*" shows that, the development of new services often happens via the trial-and-error method. Developers generally interpret a subjective description of a requirement and translate it into a deliverable concept that often bears little resemblance to the idea that triggered the requirement. There is no systematic quantification of the process and tests cannot be devised neither to gauge the completeness of a service, nor whether it fulfils the objective needs of the original idea. There is a general tendency to confuse services with products and good manners. Services, unlike physical objects, cannot be possessed by anyone. Organizations that deliver outstanding services inculcate a dogmatic attachment of the original idea in their management. By believing that this is a product of generousness and the only factor that keeps the business going, there is a zealous effort to maintain the same with a very high precision. The existing components are always enhanced upon by engineers by introducing new methods. The issues associated with creation or maintenance of a service are explored by organizations with the help of a service blueprint.

Study of *Schlesinger and Heskett, (2007*): "*The Service-Driven Service Company*" talks about the service organizations, which have traditionally followed an industrial model which relies on the principles of mass production manufacturing for the past 40 years. In the current world scenario, this model is obsolete and has dangerous repercussions to the long-term health of the sector and the US economy, much like it did for the manufacturing sector. Services companies like McDonald's cannot rely on the production-line thought process, especially in the face of unprecedented pressure from its emerging competitors. In order to attract and retain the present-day customer, the approach needs to be fundamentally different that can reverse the cycle of failure. This reality has been concealed for a long time now due to the demographics. With married women and baby boomers adding to the workforce, it can be reasonably assumed that for a majority of teenagers, this was their first job that acted as a secondary income in a two-earner family. However, with time, the number of young people entering the workforce has declined, while a majority of the female workforce continue to be the bread-earners and are often single parents. The employees who sit behind the cash registers and sales counters are adults, and the job that they do is most likely to be their permanent form of employment.

Study of *Yip and Bink, (2007*): "*Managing Global Accounts*" tells, a natural extension of the nation account management is the Global account management (GAM). Over the years, many mid-sized suppliers have adopted GAM, and is currently used in almost every sector. Global customers have always been the driving force that advances the case for GAM and will continue to do in the foreseeable future. Organizations now acknowledge that the prices are more transparent when the purchasing is centralized, and remote units do not have the negotiating power for their deals. The primary factor while considering GAM is the nature of offerings, rather than volume discounts or **global contracts that customers desire**. The prime candidates are generally the ones with a complex product or service structure, such as, **process controls, computers, and global fuelling contracts**. It also applies to value-added commodities like food ingredients, corporate banking, and specialty chemicals.

Study of *Richardson, (2015*): "*Great UX Doesn't Guarantee a Great Customer Experience*", there is a difference between creating a product that looks great and is very easy to use, and creating a great experience that **improves with time**, **delighting the users** and **broadening the scope** as it evolves. While the first one is user experience, the latter is regarded as customer experience. These two terms are mostly used interchangeably but for customer experience, a lot of factors come in to play in the background to create an experience that delights the customers. A simple yet creative application can go a long way for an organization to evolve from user to customer experience. The key to delivering the perfect experience to go over and above the surface of individual customer activities.

Study of *Elsa and Ping, (1999*): "*A service performance model of Hong Kong cruise travelers"* motivation factors and satisfaction" talks that the purpose of this analysis is to locate the travellers' profile of Hong Kong cruise, their satisfaction level and motivation factors. Along with this the requirement is also to **evaluate the important factors** and the prospect of cruise travellers coming back again and joining cruise travel. An organized individual interview was arranged, and a **systematic specimen methodology** was used for selecting three hundred thirty respondents from five liners. A model of service performance was implemented and along with this logistic regression and descriptive analysis was utilized. The results showed that the main

travelling motivation features were nothing but running away from the boredom of daily life, social gathering, and lovely attractive scenery and environment. Travelers stated about their great satisfaction level with the facilities of food and beverage and of course about the quality of the facilities and staff performances. Although, they have some dissatisfaction regarding various organizational entertainment, about Sport or fitness, childcare facilities and most importantly seating space in food and beverage outlets. The most essential factors of customers' satisfaction in cruise travel were food, accommodation, entertainment and food and beverage.

Study of *Lansiti and Lakhani, (2020*): "*Competing in the Age of AI*" talks that the era of AI is being accompanied by the new kind of firms. The firm, Ant Financials' cohort involves giants such as Alibaba, Google, Facebook, and Tencent, and also many smaller firms which are rapidly growing. The experience is such like whenever the firm uses the services from any of the above-mentioned company, they observe that rather than depending on conventional business methods, which is operated by the managers, supervisors, employees, process engineers, customer service representatives; the companies rely on the value of algorithms. The rule of competitive business is now transformed by the exclusion of conventional constraints. Industries started using the digital networks and algorithms to meet their requirements. Digital Decision factories manage most critical operating and processing decisions. Four components are important and influential in every factory. Those are, data pipeline, algorithms, experimentation platform and infrastructure.

Study of *Bessen and Frick, (2018*): "*How Software Is Helping Big Companies Dominate*" talks that all over the global economy, all the large companies are growing bigger. They produce more, profit more, does more innovation and pay better. People feel themselves lucky to work at the large organizations, but the employees, who are in the competition they do not feel the same. Researchers suggest that the use of software helps large organizations to dominate. Employees who are faster with technological procedure gets more concentration of the company. Software developers are linked with the greater improvement in industry concentration. More productivity means faster growth and lower prices. The advanced technology, specifically the software is the key to the growth of large companies. As a result, the large organizations are achieving market

shares. The benefits of IT also depend on the managerial decisions. The firms which are well managed can get more from IT investment.

Study of *Franklin, (2021*): "*Narrowing the Customer Experience Divide through IT Solutions*" talks that it is essential for companies to offer a consistent level of quality at every step of the customer journey. A strong customer relationship hinges upon a seamless experience at every touchpoint, and with the emergence of Covid-19 restrictions, the experience is now almost entirely digital. The onus is therefore on technology leaders to ensure a smooth digital experience for customers in both B2B and B2C domains. Based on the analysis of how organizations evaluate the importance of customer experience and how they actually perform on meeting or exceeding their goals in this domain, it has been observed that while most organizations view customer experience to be of paramount importance, only a few consider themselves to be successful in delivering a customized and smooth customer experience. The analysis has also identified impediments that organizations face in meeting their customer experience goals. These barriers mainly include organization silos, issues with data integration, failure to leverage the appropriate technologies for app development among others. The companies that have been able to identify the right technologies for modern application development and have a unified view of their customer are successful in delivering an excellent customer experience. From the organizational perspective, customer experience (CX) is everything it does to deliver an effective and holistic experience to its customers, which include the advertising, social media interactions, packing and logistics associated with its products and all customer-oriented e-commerce applications and customer loyalty programs. It is a competitive differentiator, and its role will increase going forward. Organizations have identified the primary factors that will help them in delivering superior CX: flexibility, security, agility and speed. The efficient use of technology will help organizations deliver on these factors and will accelerate their journey towards an effective digital transformation. A similar level of expectation is now visible in the B2B domain, where companies are now looking for a seamless experience form its manufacturers, wholesalers, and all other stakeholders in the supply chain. Despite a clear view from business leaders about the ideal customer experience, there are disconnects in terms of what is being delivered by organizations. Most of these organizations do not have the expertise or experience on the right technologies that can help create and enhance a

smooth, secure, customized, and intuitive experience for the customers. The current set of technologies are not good enough to meet the goals and silos in the organization make it even more difficult to provide an integrated and unified digital experience. Customers do not evaluate companies based on just price and quality factors anymore – the current trend demands reliable and efficient services for their scaling needs. To meet the customer expectations, organizations therefore need to enhance their technical infrastructure and deliver apps that gives customer additional value on top of the transaction. On a positive note, most organizations acknowledge the importance have a path forward to meet their CX goals. A secure, flexible, scalable app development ecosystem coupled with an integrated data management infrastructure will set organizations apart from its competition in the coming years.

Study of *parikh et al, (2020*): "*Understanding One Challenge in Cutting Health Care Costs*" talks about that the perpetual struggle to control the cost of healthcare has led health systems and specifically payers to give importance to the site of service. For instance, if an MRI scan needs to take place, the site of service could either be a hospital, freestanding facility, or the doctor's office. The cost of care is heavily dependent on the site where the care or service is provided. There is an obvious appeal to this option of saving additional health care dollars as adjustments can be made without any dip in the quality of care. The efforts for this shift have not been able to realize the potential benefits – the main reason being the assumption that all high-cost behaviours can be easily changed. The estimates do not account for the fact that it is difficult to get primary care physicians (PCP) to change their existing referral and recommendation patterns to suggest lower-cost sites of care. A realistic model that quantifies the probable cost savings through this process has been developed at the University of Pennsylvania and Embedded Healthcare (EHC) by The Healthcare Transformation Institute (HTI). The approach has been piloted for certain clinical activities including specialist referrals. The realistic output of the Clinician Behaviour Change Model will help payers decide better on business cases like incentive programs, new payment models and investment on EMR tools to be deployed at various points of care. The **model** establishes the utilization baseline from the gross clinical costs and volume and then factors in the proportionate variation that lower-cost alternatives offer. The next step filters out procedures that are complex and cannot be changed as part of the process. The filtering process also considers the ownership structure of the practices and the health system mandates that do

not provide enough scope to switch to lower-cost options. In addition to the filters above, the **model** considers the factors of motivation and time, since one has to go against the ingrained practice patterns and prevalent habits. The outcome determines the realistic volume of clinical activity that can be targeted. The target and the associated time frame must be deemed attainable by physicians. To counter potential challenges in adoption, the model recommends a conservative target to begin with, and increasing goals and associated incentives with time based on the above model and considering an additional 15% incentive for clinicians, it is estimated that there will be a return on investment (RoI) of 9.65 USD for each dollar that is spent on the incentives. The model will be implemented, and its efficacy validated in 2021 as part of a pilot program.

Theme 4: Data and insights to improve service quality & performance

Study of Rebecca Hinds & Sarang Gupta, (2023): "Customer Experience is Everyone's Responsibility", explores how leaders can **lay the groundwork** for exceptional customer experiences by breaking down internal silos and fostering a culture of collaboration. It's not just about the tools or technologies; it's about creating a shared commitment across the organization to prioritize the customer at every step. By aligning teams and encouraging cross-functional execution, companies can ensure that every interaction—whether online, in-person, or behind the scenes—reflects a unified, customer-centric vision.

It also talks about today's **digital-first era, delivering exceptional customer experiences** has become increasingly complex. Customers no longer engage with brands through a single touchpoint; instead, they interact across a vast and interconnected ecosystem—**social media, email campaigns, review platforms, chatbots, and more**. While businesses have long recognized the importance of adapting to this omnichannel reality, many still fall short of delivering seamless, integrated experiences that truly resonate with their audience.

The key to unlocking outstanding customer experiences lies in fostering cross-functional collaboration within organizations. Gone are the days when customer experience could be siloed within a **dedicated team or left solely to frontline employees**. Today, every department—from marketing and sales to IT and operations—plays a critical role in shaping how customers perceive and interact with a brand.

Study of *Meyer and Schwager (2007): "Understanding Customer Experience",* defines the customer experience as the **internal & personal response** from customers regarding any type of communication to a company whether direct or indirect. The study tried to find out how the organizations **neglecting the value of customer experience**. Many CEOs passively denies the implication of customer experience along with the tools used to collect the data, grouped those data, properly analyze those, and finally come with the findings. Sometimes those results are not suitable to the overall company strategy, where the actual neglect to the customer experience lies. So sometimes the gap is purposefully kept within the system. Customer experience management system should be there to analyze the **past pattern, present pattern to come up with the potential pattern with the focused groups responsible/accountable** for it, how **data**

could be collected, what would be the **analysis method** and finally the discussions and action forums would take place.

Study of *Sujata Joshi., (2014)* on Telecom field specifically talks on Why the Mobile companies in India should come up with a proper customer experience strategy basis on almost 1 billion mobile connections in India. The different factors like competitive pricing, product variations, courteous employees, timely billing, accurate billing, quick service, service quality, friendly employees, helpful employees can make the difference in customer experience. The research was done of a sample size of 536 mobile customers in Pune. As per the outcome of the factor analysis **service delivery/service performance** comes out as the most critical factors with 25.79%of the total variations. Which followed by **customer care** (20.36%), **communication factor** (15.35%), commercial factor (14.06%) and environmental factor (10.6%).

Study of *Teixeira et al, (2012): "Customer experience modeling: from customer experience to service design",* talks how the customer experience has become one of the most important aspects for service delivery organizations as they consider it to be a source of sustainable competitive differentiator. It is also considered by service designers to be the base of any service design projects. The integration of service design principles with multidisciplinary service strategy to represent the elements of customer experience allows the actualization of the complex information gathered during customer satisfaction processes. CEM can enable the work of end-to-end service design teams by **delivering insights to service design**, as is highlighted by its application to a multimedia service.

Study of *Borowski (2017*): *"Great Digital Customer Experiences"* aims to explore the following:

- What a **visual consistency and consistent processes** are important
- How can one **deliver scalable yet outstanding customer experiences**
- The importance of **dedicated systems that focus on customer experience** by **utilizing the collected data and churn those into actionable insights.**
- Why tools are needed to gauge **customer sentiment** towards their experiences
- The association between **digital initiatives** and how it **integrates with other aspects** of the customer journey.

Study of *Heskett et al, (1994*): "*Putting the Service-Profit Chain to Work*", a lot of organizations have started to realize that when their customers and employees are considered paramount, there is a fundamental change that takes place in a way which makes it crucial to measure and manage success. The new financial side of service needs advanced measurement techniques. A **loyal customer's lifetime** value can be cosmological. The **service-profit sequence** establishes connections between **customer loyalty and employee satisfaction**, **profitability**, and **productivity**. Value can be shaped by loyal, satisfied, and productive employees. Customer loyalty motivates to success and growth of the organizations. Employee Loyalty energies productivity and leadership triggers the Success of this sequence.

Study of *Teal, (1991*): "*Service Comes First*", says the mission and business culture of any company should be service. A company's purpose and service come of either growth or profit. They concentrate on job content, structures, repetitions of effort, incompetence and more. People do not like to spend their valuable times doing pointless job. For decades the largest part of job enrichment is nothing but service. And here comes the importance of **technology, computers, telecommunications, automation. Information technology has become a strategic competitive missile to achieve the goal.**

Study of *Ekekwe, (2016*): According to "*What Africa's Banking Industry Needs to Do to Survive*", across Africa, banking sector is being redesigned. Technology has become as a competitive weapon for operational excellence and excellent service quality. African banking commissions and fees are under marvelous pressure. This is because most of the African economies is about to shrink because of commodities bust. The public funds, which was reliable and provide the primary deposit base for the banks are started disappearing. Legacy infrastructures, such as banking branches, are not super active and continue to reduce margins because customers are compelled to move to new outlets. Indeed, the increasing challenges of African banks are huge. To recover this issue certain steps should be taken. Those are, **restructuring staff, data alliance, promote digital banking and think of some innovative ideas**. They should also think of the **local needs**.

Study of *Williams, (2018*): In accordance to "*Help Your Team Measure Customer Experience Data More Accurately*" Customer Experience (CX) is not just about measuring the relationship

shared between organizations and its customers. It is also about measuring **several interactions and residual memories** that influences the future behavior of customers. A factor that drives customer satisfaction scores is the population density - which incidentally cannot be converted to balanced scorecards. It has been a routine observation by many organizations that the locations identified as low performing on the basis of balanced scorecards, are, in reality, performing over and above the expectations, considering the uncontrollable conditions of operation. The rationale and purpose of employee appreciation is defeated when performing store managers and the employees are put under the scanner for **incomplete data** in the scorecard. The key to establishing trust and motivation within the team for higher success can be achieved only by enabling a level playing field.

Study of *Taylor, (2013*): "*Enterprise's Leader on How Integrating an Acquisition Transformed His Business*", tells that the tough part of an acquisition like this was the **integration** of the acquired companies. A majority of organizations fail at it, and for the ones that succeed, the acquired organizations are left with the feeling that they have been swallowed or "annexed". During the phase where merging organizations were getting acquainted, one major deliberation was on whether the three brands should be maintained separately or should Enterprise and Alamo be combined. The learning that came out of it was that the primary factor in deciding on a deal is to have a unambiguous understanding of what can be gained out of it. We learned that during a merger integration, one should act purposefully because there is only one chance to get it right. We also learned how symbolism plays an important role.

Study of *Beshears and Gino, (2014*): "*Experiment with Organizational Change Before Going All In*", talks about the Organizations that are prone to introducing new initiatives without considering this step. The discipline of behavioral economics that combines the study of psychology, decision making, judgement and economics provides **an insight** on this matter. The tendency of the average human mind is to identify and interpret all available information as **supporting evidence** to an action when we feel it to be a **correct decision** - which is known as "confirmation bias". We also tend to justify our past investments and continue in the same direction, in spite of new information suggesting the contrary. This is also termed as the **escalation of commitment**, which along with confirmation bias is what prevents organizations

from evaluating changes in the correct light. The key decision makers in such organizations often have the erroneous notion that they are aware of the changes that are right for them. Unfortunately, most of these organizations perish while trying to implement ineffective policies and due to the failure to identify any alternate policies that may be more appropriate in their context.

Study of *Schwager and Meyer, (2007*): "*Understanding Customer Experience*" talks that It is apparent to any person who has recently subscribed to a cellular phone service that it is very difficult to compare the cost of carry-forward minutes against the in-network free calls, and how it stacks up against services like roaming, messaging, and push-to-talk. There is an overload of features, rebates that come with a catch and a dearth of the personal touch, which points to indifference to the quality of customer service on offer. Customer experience touches every single aspect of the company's offering, which covers the customer care quality, the packaging, advertising, product or service features, overall reliability, and the ease of use. Within the world of product-based organizations, the marketing team provides the inputs regarding customer experience issues to the product development team, and the focus is mainly on the features and specifications. A lot of organizations do not recognize the need to focus on customer experience while others gather the **data for quantification** but do not utilize the observations across the board. A few organizations get it right in quantifying and circulating the findings but fail to identify a specific entity to take responsibility for putting the findings to work.

Study of *McGinn, (2020*): "*The Power of These Techniques Is Only Getting Stronger*" talks that Jeremy King works for Pinterest. He is the senior vice president of technology. According to him, an organization need a certain kind of philosophy to be best at experimentation. To get success at it, people need to be particular in **making decisions** which should be **constructed on data. Transformation changes** is required for most of the established organizations. Organizations are interested to speak on **data democracy**, although there are obstacles, for example privacy concerns. **Data democracy** demands an investment and an **intellectual shift**, nevertheless the benefits are significant, as it reveals **improved decision-making**. Companies such as **Pinterest, Google, Facebook** are well-known for their extended onboarding processes. Experimentation is comparatively expensive, but the gains are so important that it is mostly worth it.

Study of *Sanders and Wood, (2000*): "*The Secret to AI Is People*" talks that many business leaders think that Artificial Intelligence is nothing but another 'plug and play' growing technological investment. These farms do not have enhanced technology. Rather they have transformed the way of working in their business in such a way that human resources can be boosted with machine powers. Siemens launches a combination of software and hardware which allows **AI throughout the Integrated Automation (TIA)** architecture. It is an approach which supports Siemens' mission with the AI strategy. The research shows that Artificial Intelligence is much more than the modern incremental enhancement in current technology. With the **use of this model**, a hope arises that more organizations can make the situation for understanding the super-human intelligence and implementation.

Study of *Agarwal et al, (2020*): According to "*How to Win with Machine Learning*", Machine learning is used by the different industry first to recognize patterns and then to make predictions. The prediction is all about what should the business do to draw the attention of the customers, how to improve operations, or how to help to make a product improved. In the past decade we have seen a tremendous advancement in a thrilling realm of AI (artificial intelligence) and machine learning. This exciting method of **receiving data and converting them to predictions** has empowered the tech hulks, like Apple, Amazon, Facebook, and Google to vividly improve their products. Many organizations are already doing their job effectively with artificial intelligence and are very much cognizant of the realistic steps for assimilating it with their process.

Study of *Fotsch, (2014*): "*Track Customer Experience, but Don't Forget the Financials*", tells that all business entities are continuously on the lookout for valuable **customer feedback**. Customers are e-mailed for **surveys**, are requested to **stay back on call to rate the service** that has been provided. The customer facing employees are entrusted with the responsibility of keeping customers satisfied. However, that raises a few questions on how this can be done in an effective way. The employees should be empowered to monitor the feedback from customers and suggest improvements based on it, while being cognizant of the key financial indicators, and also allow them to take the actions needed to steer to the correct course. All executives are expected to know that all good business decisions depend on inputs of both kinds. Organizations that ask their front-line staff to make more decisions should also be provided with the know-how of

keeping customers happy and the cost associated with it. The customer facing employees should not be turned into statisticians but be aided by the finance team that leverages analytics to determine and justify the worthiness of trade-offs that they can make.

Study of *Morgan, (2017*): "*AI Can Comb Through Your Data to Create More Compelling Customer Experiences*", talks about the volume of data available for organizations has increased manifold over time, and it has been overwhelming for most organizations. Despite the increase in data volumes, the front-line staff often find themselves operating with data that is "too little, too late". The challenge that a majority of organizations face is to extract **meaningful and contextual insights** from the **customer data**, while browsing through **several data streams**. The information is most often not shared in the most efficient way, and it becomes overly difficult when organizations deal with complexities such as mergers and acquisitions. On one hand, the companies need to provide customers with easy and elegant experience, while trying to leverage the large volume of data available to satisfy the customers. One way to tackle the problem is to introduce machine learning, provided organizations can break out of their silos and implement it appropriately. With the help of automated analytics, a stream of feedback loop can be generated using customer interactions, which can adapt in real-time and provide value at every touch point. While data can be extremely insightful for organizations, it is no longer feasible to leverage the advantages of big data and provide customers with improved experience without utilizing the artificial intelligence (AI) tools.

Study of *Kahn et al, (2002*): "*Information quality benchmarks: product and service performance*" talks that **Information quality (IQ)** is an **inaccurate science evaluation** and standards. Though different aspects of information and quality have been examined thoroughly, still there is a critical requirement for an approach which can assess how good the organizations can develop information related products and deliver information facilities to the consumers. Standards grew from a methodology, which can help in comparing information quality throughout organizations, and give a standard point to assess IQ improvements.

Study of *Rowley, (1997*): "*Beyond service quality dimensions in higher education and towards a service contract*" talks that an essential precondition to the instrument-design for measuring in higher education and quality is an approval of the complexities, which is associated with the quality measurement nature and higher education enhancement. The main role of observations and expectations and the contribution-complexity of various types of customers are vital. Examining the following subjects: what type of quality is, which type of quality is important, and the possession of quality. Classifies features of the educational-experience that distinguish education from the other service experiences, which includes exclusive access; customer-role in the procedure and the study of the educational experience across the year. Setting a clear concept of service contract with the students with a clear-cut boundary, so that the students or the customers can judge properly keeping the proposed contract in mind and **give feedback**. This technique generates more **positive feedback** from the customers.

Study of *McGrath and McManus, (2020*): "*Discovery-Driven Digital Transformation*" talks that the CEOs of traditional organizations often tend to panic when asked about their digital strategies. They identify digital technologies and the business models to be an existential threat for the traditional way of doing business, which is correct in a sense. As a reaction to the pressure, they often make huge bet-the-farm moves, which tend to be incorrect. The existence of firms has always puzzled economics, and more specifically, the tasks that fall within the boundaries of a firm. A thought process, started in the 1930s by Ronald Coase, asserted that market transactions, under certain conditions, are not satisfactory to individuals. This is true specially in cases where the information about what to purchase is expensive or difficult, or when it is difficult to strike a bargain based on uneven information, or when enforcing agreements is challenging. In these times, individuals tend to limit the activities within the firm. In organizations where executives are naturally inclined towards the digital technologies operate under some assumptions when it comes to structuring the transactions. In traditional companies, the assumptions are entirely different. Additionally, the structures of these digital firms keep evolving with time, which makes the management revisit the initial assumptions quite frequently. This enables digital firms to pivot quickly or change direction without losing a lot of value since they are not very capital-heavy or have people on high payrolls. On the other hand, traditional

companies cannot change directions or pivot without destroying value. The employees lose jobs and physical assets unloaded at low prices if their digital initiatives do not work.

Study of *Tse et al, (2020*): "*The Dumb Reason Your AI Project Will Fail*" talks that there is a common theme to how most organizations fail to adopt AI. They start by working closely with technology vendors with good credentials, devote sufficient time and effort, invest good money, and achieve very encouraging results with their **proof of concepts (POC),** which helps them showcase how their businesses would improve with the usage of AI. However, after a point, everything reaches an impasse as organizations feel stuck at a dead end. The promising POCs are shelved and the employees demotivated. It is extremely difficult to integrate AI models in the existing technology structure of an organization. To successfully integrate artificial intelligence, organizations need to provide larger technology systems and infrastructure. AI Operations, also known as AI Ops is the missing piece to the puzzle here. AI Ops is the practice that aids build, integration, testing, release, deployment, and management of systems to translate results into the insights that are useful to the end users. In its rudimentary form, AI Ops is not just about the correct software and hardware solutions, but also the correct set of developers and engineers who possess the skills needed to integrate AI in the existing organization processes and systems. There are several technical issues with **AI technologies** now, which means organizations need to avoid bottlenecks and create a reliable environment. Most businesses are reluctant to do so since it denies them the right to own their own proprietary system and full control over it.

Study of *McDonald and Eisenhardt, (2020*): "*The New-Market Conundrum*" talks that over the last two decades, there have been an extraordinary number of new-to-the-world markets that have emerged by leveraging technologies such as cloud computing services, smartphones, and warehouse robotics. These cutting-edge technologies have not only helped redefine few industries, it has also led some legacy business categories to become obsolete. The continuous emergence of these innovations, such as autonomous trucks and commercial drones, **virtual reality (VR) and augmented reality (AR)** indicate that the trend of carving out new markers is here to stay. Much like wormholes found in science fiction, these new markets strategically do not follow the conventional rules of time and space, which justifies the thought process that

tempts us to compare the market pioneers to be conquerors of a foreign land with no identifiable landmarks or navigational tools. However, the research on the patterns of success and failures in these new markers have helped in discovering some unexpected observations. They can generally be identified as new strategic frameworks that help innovators in exploring alternate directions in these new markets, while avoiding the bottlenecks of the traditional ones. The traditional way of business thinking tells us that the essence of strategy lies in the choice of performing activities that sets us from the competitors. A strategy is considered to be a success when it helps an organization position themselves as a business that provides more value than others and helps serve customers more efficiently or offers them benefits at a lower cost. This mindset should be reinforced by venture capitalists by mandating start-up founders to identify their competition in the market and devise a plan to create a differentiating factor. New and emerging markets have their uncertainties which calls for an innovative strategy thinking framework, but that does not discount the fact that these new market plays need a differentiating factor. However, the primary focus should be on the existing option that the customer uses, and not the competition on the new market.

Study of *Kumar, (2020*): "*The Case for AI Insurance*" talks that a majority of organizations, including Microsoft, Google, Uber, Tesla and Amazon have had to deal with trickery, evasion and unintentional misleading when it comes to their **artificial intelligence (AI) and machine learning (ML)** systems. In spite of these failures, most companies are not fully aware of the risk that they possess while dealing with these technologies. As recent events indicate, the AI/ML systems are fragile and can potentially lead to disasters in the real world.
Intentional failures are when an adversary actively tries to compromise the AI system and tricks it to obtain any substantial output such as the confidential training data or the operating algorithm. However, in case of unintentional failures, these systems fail on their own without any external trigger. This is common because in AI/ML, failure modes provide insights into the research and therefore there are no remedial solutions devised for the same. Additionally, the existing rules and regulations pertaining to copyright, anti-hacking statutes and product liability do not cover all possible failure modes for these systems. Therefore, the primary way to mitigate the risk of data manipulation by AI/ML systems is to **seek traditional cyber insurance**. However, as per the experts from the cyber insurance field, not all failure modes are covered by

the insurance. Any AI failures that cause interruption in business continuity or breach of confidentiality would likely be covered. However, the coverage does not extend to any failures that may cause brand or property damage, and bodily harm.

Study of *Balis, (2020*): "*Brand Marketing Through the Coronavirus Crisis*" talks that in the crisis times of covid 19, for marketers it is difficult to know where to begin. In a few weeks, people have moved into the mode of protection, they are very much focused on their families, themselves, their communities, their employees, and their customers. **Social media** mirrors this, requesting fellow citizens to follow the safety guidelines provided by the government. People are afraid enough and build a partisan line to with their neighbourhoods and with communities. They unify against an invisible force. Consumers have np other choice than returning to cable television and broadcast and other best media sources for getting trustworthy information. They are also looking for more entertainment, such as spending time on social media, downloading gaming apps, and watching more movies and web series in OTT platform. People believe vulnerably right now. Some banks have moved to give up overdraft fees, understanding the difficulties of their customers. Access to distant production and artistic capacity will become significant with the evolvement of crisis. Marketers should think of modifying their media combination. Frequently tracking the human behavioural tendencies will help the marketers to gain better visions in real time. Marketers should want to measure the sentiment and consumption inclination on a regular basis for the opportunities and to identify the forthcoming crises very quickly.

Study of *Lansiti and Lakhani, (2020*): "*Competing in the Age of AI*" talks that the era of AI is being accompanied by the new kind of firms. The firm, Ant Financials' cohort involves giants such as Alibaba, Google, Facebook, and Tencent, and also many smaller firms which are rapidly growing. The experience is such like whenever the firm uses the services from any of the above-mentioned company, they observe that rather than depending on conventional business methods, which is operated by the managers, supervisors, employees, process engineers, customer service representatives; the companies rely on the value of algorithms. The rule of competitive business is now transformed by the exclusion of conventional constraints. Industries started using the digital networks and algorithms to meet their requirements. Digital Decision factories manage

most critical operating and processing decisions. Four components are important and influential in every factory. Those are, data pipeline, algorithms, experimentation platform and infrastructure.

Study of *Bessen and Frick, (2018*): "*How Software Is Helping Big Companies Dominate*" talks that all over the global economy, all the large companies are growing bigger. They produce more, profit more, does more innovation and pay better. People feel themselves lucky to work at the large organizations, but the employees, who are in the competition they do not feel the same. Researchers suggest that the use of software helps large organizations to dominate. Employees who are faster with technological procedure gets more concentration of the company. Software developers are linked with the greater improvement in industry concentration. More productivity means faster growth and lower prices. The advanced technology, specifically the software is the key to the growth of large companies. As a result, the large organizations are achieving market shares. The benefits of IT also depend on the managerial decisions. The firms which are well managed can get more from IT investment.

Study of *Schlack, (2017*): "*Understanding Customers by Blending Human Insight and Machine Learning*" talks that traditional software programs rely on an explicit set of rules for a process to follow. It can designate a four-wheeled object as a car but that would not be appropriate for a card-wheeler in a Happy Meal box, which is more likely to be tagged as a toy or a swallowing hazard by a human. It is impossible to articulate or document all the rules to identify or classify objects like how a human would interpret. Human beings classify and categorize by pattern recognition, past learning, and associations, which can be different based on the purpose or context. Machine learning can only serve as a helpful toolkit, which helps human beings look in the correct direction, akin to a metal detector. Machines do not have the human qualities that are required for human growth - primarily because they can be trained to recognize sentiments but cannot be made to exhibit emotions. Emotional arousal is crucial for organizational growth and for building a strong customer relationship, and without the most important ingredient of mutual concern, machine learning can only play a helpful part, but never replace the human factor.

Study of *Socher, (2018*): "*AI's Next Great Challenge: Understanding the Nuances of Language*" talks that artificial intelligence, specially, natural language processing (NLP) has provided us with the capability to explore new realms of how we work with them. Languages help humans connect and share information and machines need to figure out the nuances of languages to understand how humans communicate effectively. The advancement in the fields of sentiment analysis, questions and answers, and multi-task learning exercises are helping AI progress in its understanding of the human communication system. At Salesforce, the Einstein AI services provide brands to leverage real-time analytics of the customer sentiments exposed through emails, chats, and social media conversations. Although the AI models built by the scientific community is good at performing a single task effectively, the true challenge is to learn and adapt continuously, to merge old tasks with new ones and perform increasingly complex tasks in the process.

Theme 5: The common service quality & performance parameters impacting the customer satisfaction score

Study of Natally Kelly, (2023): "How Global Companies Can Create a Consistent Customer Experience", talks about the rise of online marketplace which can help the international companies to reach to their customers as **"global native"** providers. In this regard, one example is given for the company Lottie, came out of Donegal, Ireland, from the very beginning have the integrated storefront with Amzon to reach out to the customers of the countries in North America like USA, Canada or EU countries like Germany, France, Poland etc. This approach offset the initial high development costs. This international presence at the beginning of introducing product(s)/service(s) to the market shifts the paradigm from the so called **"default global" companies to "default local"** companies. In addition, recent research shows that around **89% of the global successful tech companies** became global before they got their unicorn status (USD 1 billion). Some **perception** challenges are there like perceiving a local organization might erode the brand value of an international brand. To keep the customer delight intact, companies understand that local customer facing talent creations is also important to not just acquire a customer but to retain the number and make a sustainable revenue stream. To create an equitable customer experience, a holistic approach is required which encompass **Marketing, Sales, Product and after sales support.**

Study of *Lin et al., (2011): "The critical factors impact on online customer satisfaction", explains* how online customer **satisfaction & retention** a problem is off late because of the steep competition and practically with **no product differentiation**, so customer satisfaction is very important in this scenario. The objective of this paper is to show how customer experience is handled in e-commerce. A survey conducted in Taiwan on 390 undergraduates who had experience in purchase through online to verify the overall model fitment. The **e-commerce marketing** is important as this is the way to talk about how innovative the product is, **product quality, delivery quality, price** etc. The campaign can give the penetration rate which can be helpful for the **brand imaging, product reach, system quality, service quality** etc. All these **product quality, service quality, system quality, delivery quality & information quality** has positive influence on the user satisfaction. Customer perceived price plays a big role is user satisfaction and help to create the brand value.

Study of *McLean (2017): "Investigating the online customer experience – a B2B Perspective",* talks about how digital marketers in the service industry is failing to understand the customer satisfaction and only a subset is taken for calculating customer value. The online survey of 195 participants shows the result that the credibility of the website and the information residing there has significant effect on **OCE in the B2B segment**. It shows that the right product information and customer support information available on the website has significant importance. This research also fills the knowledge gap available in the OCE are in B2B sector are mainly in **service awareness** and **fulfilment efficacy**.

Study of *Urban and Qualls (2000): "Placing Trust at the Center of Your Internet Strategy*", depicts that **trust** has always been key terminology in marketing successfully. In industrial marketing 20% sales are done by sales rep and 80% are done by the trust that customer has on the organization. In consumer market trusts are depending upon the brand name, so Coke or Nike are top names in the market. Different industries like financial and insurance trust that perception is the main sellable thing. For any kind of on-line payment trust is the main factor which is a very big business right now. After building the trust, the next steps are to ensure that the information residing on the website is correct and accurate. The advisors in the web sites are also another way to build trust. Finally, **trust** is the new currency on the web and customer satisfaction deeply dependent upon trust.

Study of *Johnstons and Kong (2011)* suggests about responses to a call at the customer care and how it helps organizations drive customer experiences. Four organizations were identified for this study: one B2B, one B2C, one public sector organization and a utility. This study over a span of four years put together data from observations made by participants, internal reports, and discussions, with additional inputs from secondary data. The differences in the four companies notwithstanding, there was a common approach taken by each of these organizations to elevate their customer experiences. This paper recommends a ten-step roadmap to improvement that develops the existing models. This highlights the importance of a change in mindset when it comes to designing the customer experience improvement plans and talks about the strategies where customers can be directly involved in this improvement process. It provides a blueprint for organizations **(e.g., awareness or the products, quality assurance, personalized offerings etc.)** to use as base and improve their customer experiences.

Study of *Ferreira* and *Teixeira, (2013): "Welcome to the experience economy: assessing the influence of customer experience literature through bibliometric analysis*", talks about the publications that has a strong influence on the evolution and direction of research in a field, especially in terms of identification, introduction, development of pioneering insights and concepts. The analysis of such innovative publications identifies the influence of the scholar or the theory pertaining to the discipline. It is a comprehensive and worthy way to introduce newcomers to the field and provides the incumbent researchers with detailed updates. The last few years has witnessed an increase in the interest about customer experience from both industries and academia. The paper focuses on the 'small world' introduced by Pine II and Gilmore with the help of bibliometric tools. A detailed analysis of this article's scientific influence has been performed based on the citations received since its publication. The observations have not only been used in business management, but its use has also been noticed in sectors like sport, tourism, hospitality, and leisure. Additionally, it also highlights how **innovation and remodeling of the product/service** are underrepresented sub-topics when it comes to customer experience research.

Study of *Rohde, (2005*): "*Little Decisions Add Up*", talks about corporate success which relies on how well ranked employees can make thousands of minor decisions. They may influence things from prosperity to reputation. A decision yield methodology would assess this interaction along with five dimensions. Those are, **precision, speed, cost, agility, and consistency**. Any organization may use the decision yield tally to improve its company decision management, assess investment opportunities, determine a direct link between the overall performance of the business and the results of distinctive interactions. The decision yield is measured by weighting the five dimensions according to which how they influence customer gratification, competitive differentiation, and the financial outcomes.

Study of *Prokesch, (1995*): "*Competing on Customer Service: An Interview with British Airways*' Sir Colin Marshall", tells us that businesses are as viciously competitive. The competition in every sector is tough enough. Most organizations seem to be concentrating mostly on cost and price. These are the main two sides of the commercial equation: revenues and costs. Both is important. Any business that emphasizes on one of these traits, the other is surely going

to pay severely. There are various ways to compete in a bulk-market service trade. One of the critical features to serve customers is to meet customers' value-driven immense requirements. Each industry has a cost of entry. Many human connections are engaged in creating an experience in the service business which is really difficult to evaluate which interactions made a customer to feel satisfied or not satisfied. There is huge scope for **innovation, invention, and approaching the driven frontier** by introducing new products or services or **remodeling the product or services** to cater the needs where **awareness** of the product is a factor.

Study of *Brant, (2015*): "*Everyone Says They Listen to Their Customers—Here's How to Really Do It*", tells that almost every luxury service business's moto is, "listening to the voice of the customer." But listening and understanding is not the same thing. The most important trait of getting more satisfied customer is to understand their mind and requirements. Many businesses track social media sites, like Twitter and Facebook to measures their **service performance on customer service**. Social media is the best way to find what customers truly worth their luxury experience with you. These information shape customers' experience approach. Also, the provider can give early warning signals if the service has slipped for any reason. The most powerful but under-appreciated gears to improve **service performance and quality** is direct observation. Luxury **innovations** generally come from understanding requirements and adopting new needs.

Study of *Hart, (1995*): According to "*The Power of Internal Guarantees*", In a middle-size manufacturing enterprise, senior level executives are stubbornly late for the meetings, trigger annoyance among the members who arrive on time and have to wait to begin. Incomplete and unsystematic discussions of plans, gradually messy decision making goes against the organization. In a small direct-mail company, the production team and the sales force and have practically plough channels in the clash over who is responsible for the loopholes in the print materials, which the company makes for its customers. Both have their disagreements and arguments, and as a result the relationship becomes adversarial. These mistakes repeat and grows rapidly. All these problems are *internal*, although any manager of a company knows very well that internal problems don't stay for long. Internal guarantees can solve the problems effectively and permanently. The **internal-guarantee concept** is not a new concept. Before a company starts, employees should understand appropriately the concept of an internal-guarantee program.

Each employee should have a crystal-clear picture of his/her work and how it fits into the interrelated chain of functions. It decides whether an organization succeeds or fails.

Study of *Rigby et al, (2020*): "*The Agile C-Suite*" says, the work of a **traditional agile team is to produce innovative and profitable solutions to the problems** and arise with a **new service or a product, plan a better commercial process, or enhance a progressive technology to support the offerings**. The work of an agile management team is very different. It is to make and organize an agile system. In a big firm, it is not simple to maintain balance. A company's operating system depends on many components. For example, the firm's value and purpose, its talent appliance, its data and technology schemes. There is no fix formula to get the right balance. Every organization and every industrial activity will be different. Senior level executives of big companies know a lot. They are full of self-confidence. And because of this, they become successful, but at the same time, these characteristics can turn into obligations. Agile management demands, executives make a sensibly balanced system which gives both agility and stability, they develop business results, allow to run free the prospective of employees and improve their job satisfaction.

Deichmann and Heijde, (2016): talks about the very first step in **one design-thinking procedure is to recognize the end-user's experience**. For that, the team has to look the inside of the business as well as the outside; to get the ideas about the process to enhance hospital's service. Ingenious architectural and interior decorations can also contribute in reducing patients' fears. For example, in the children's' department, the fun filled play area can reduce their fear or stress. And with such new concept and imaginative features things become easier, as it allows kids to communicate eye to eye with the desk person or the hospital staff. Although every idea does not work. Patients do fear or feel uncomfortable sometimes. But over time, many experiments succeed, and employees feel that a better design can bring a positive effect on the patients and on themselves.

Study of *Merholz, (2009*): "*Customer Experience Is an Investment, Not a Cost*", talks that the attention to design is paramount since it shapes the customer experience and thereby has an influencing factor on their behaviour. Design is generally considered to be all out the aesthetics,

the form and the styling, which is limiting the scope. They happen to be what we get out of a design initiative, but do not hold any significance unless it helps customers engage in a new activity. The degree of impact created by the design determines its effectiveness. The understanding of how an effective design correlates to the results can bring a shift in the way an organization spends on it. Traditionally, organizations consider design to be an expenditure, and like any other aspect of business with a cost associated, the goal is to keep it small. However, when businesses identify their **key performance indicators** (KPI), it would be apparent that the deepening of relationships by having customers invest more and widening of relationship by having customers invest in additional avenues are crucial and carries a lifetime value.

Study of *Shostack, (1984*): "*Designing Services That Deliver*" says that every industry is familiar with the indicators and effects of **service failure**. Instances of poor service are extensive. Customers believe that they are treated badly. Managers feel that intractable individual employees are responsible for the malfunction. As the remedy of this issue, it is believed that customers and managers indirect and light threats can be the first attempt. if this effort is failed, then the confrontation may come as the result. The growth of a new service is generally characterized and tested by trial-and-error method. Developers do the translation of a subjective narrative of a requirement into an operational concept which can assume only a remote semblance to the original idea.

Study of *Smith and Williams, (2016*): "*The Most Common Reasons Customer Experience Programs Fail*", tells that a majority of customer experience (CX) programs often get derailed from its primary business objectives to focus on tracking the associated CX metrics. The basic programs **track the performance** over a period of time, which is useful and effective because these programs give priority to the importance of what needs to get measured, and those data are compared against the desired outcomes of the organization. This is commonly known as "driver analyses", and good driver analyses are effective in identifying the methods to attain most change with the fewest possible moves. The other important aspect for CX to drive a real change is collaboration.

Study of *Zhu and Zhou, (2015*): "*How does a servant leader fuel the service fire? A multilevel model of servant leadership, individual self-identity, group competition climate, and customer service performance"* talks that construction on social identity context and cross-level procedure model clarifies that how a servant leadership of a manager affects the service performance of forefront employees', and that is measured as the **customer-oriented** citizen behaviour, service quality, and customer-related social behaviour. According to a survey taking a sample of two hundred and thirty hairstylists in around thirty salons and almost their four hundred seventy customers. It was found that hair stylists' self-individuality rooted in the group, specifically, self-efficiency and group credentials, partially referred the positive result of servant leadership of the salon managers on the service performance of the stylists as evaluated by the customers. Furthermore, the atmosphere of group contest boosted the positive relationship between **service performance** and **self-efficiency**.

Study of *Julien, (2021*): "*Key Trends for Remote and Hybrid Customer Experience Delivery*" talks that the year 2020 was different from the other years in a lot of ways. Community lockdowns triggered work-from-home mandates across industries, widespread unemployment in several sectors, and a socio-economic upheaval of sorts. As governments mandated several safety measures, and the healthcare sector reeled under the overwhelming pressure of patients, most non-essential services were deemed unnecessary, and companies looked for a lifeline to remain engaged with their customers. The Covid-19 pandemic disrupted all human beings, irrespective of nationality, religion, gender, or profession. Teleperformance, with over 330 thousand employees spread over 80 countries, had a massive task at hand - to ensure continued operations while maintaining safety. Before the crisis began, only 10,000 of its employees were deployed remotely, but most of the global workforce had to be shifted to the WFH setup in just two months. While it was challenging, a consistent balance between technology and the human touch enabled Teleperformance to achieve the impossible. The shift to remote work and customer support has prematurely arrived, and it has handed over the advantage to companies like Bancolombia, who along with their BPO partners, had already started investing in new tools and processes to optimize its remote CX delivery. Due to the war footing approach from organizations, there are operational benchmarks on swift responses to crisis situations, and the

best practices are still being developed. A lot of leading contact centre operators have identified the benefits of remote/hybrid contact approach and leveraging the experience to draft a robust and efficient process around it. Similarly, organizations that had captive contact centres are now looking at cloud-based solutions as alternative sourcing models. As per the Taylor Reach Group survey, organizations, especially the ones which were averse to virtual work, faced a lot of difficulties during its initial transition to remote work, especially in the areas of connectivity, internet bandwidth, network systems and security. Comcast, a media tech enterprise, was able to switch over 1000 agents each day to virtual work setup based on its pre-pandemic initiatives on establishing a virtual care agent model. However, most companies were still using on-premises contact centre solutions, while the migration to clouds were still on their roadmaps. This made them unprepared to deal with the sudden and massive surge of digitization. There were few organizations that had partnered with firms to provide remote customer support, prior to Covid-19, and it was relatively easier and faster for them to transition to virtual work.

The Abu Dhabi government contact centre, along with their partners set up on-call IT processes for its agents with proper security and troubleshooting protocols in place. Similarly, Seguros SURA Columbia, an insurance conglomerate, had already started working on a seamless omnichannel ecosystem that benefitted its 12 million policy holders, and extensively covered hospitals, diagnostic centres, clinics, and other stakeholders.

The advent of AI, machine learning and workforce management tools have already made strides of advancement in the area of CX, and the pandemic has forced companies to adapt to these models faster than their traditional models. It is not yet clear what the ideal mix would be for a remote and on-site support environment, but it is evident that organizations will not revert to its pre-pandemic models.

Study of *Huang et al, (2018*): "*How Customer Service Can Turn Angry Customers into Loyal Ones*" talks that it is common sense for organizations to provide good customer service, but this has never been quantified exhaustively till date since they are reluctant to share the sales and CRM data and researches mostly rely on surveys. However, with online customer service demand on the rise, social media provides a suitable platform to analyse interactions between customers and sales personnel. It has been observed that an interaction with customer care staff on Twitter generally influences customers to pick a brand among competitors on a similar priced

offering set, or even push them to pay slightly more for the service. Irrespective of the type of interaction (negative, positive or neutral), the interaction itself creates an incremental brand value in the customer's mind, which in extension, suggests that servicing an irritated or angry customer can create a positive impact on the brand value. As is the case with most negative scenarios, there is very little customer executives can offer to right the wrong, especially when it is a time-based transaction past its deadline, but in all these situations, customers are really looking for empathy more than a solution. It is therefore a better approach to respond to an angry or negative interaction than to ignore it.

Study of *Chakravorti et al, (2018*): "*How Digital Trust Varies Around the World*" talks that the global pandemic has massively accelerated the digitization drive globally. Online learning has become a mandate in schools, most jobs across industries are now being done remotely and even governments have adopted digital systems to tackle the various aspects of dealing with Covid-19: contact tracing, relief distribution and coordination of vaccination rollouts. Although results have been mixed, it has shown us the massive potential digitization has in terms of adding value to the society. However, we have also seen how fragile these tools can be, and how user trust is often left behind in the quest for digitization.

Research was conducted by the Fletcher School of Tufts University in partnership with Mastercard to study the four main components of user trust in digital systems, and how they vary in terms of usage and purpose it attempts to solve. The four metrics were measured across forty-two economies and following are the implications of the findings:

a. Digital environment: The first metric refers to the various systems that an economy has in place to support the digital ecosystem in a safe and secure way. In terms of public/government undertaking, it includes the laws, regulating organizations that protect digital data in aspects of privacy and security. In the private sector area, it mainly refers to several organizations, such as social media corps that build systems to prevent misinformation, and firms that formalize encryption mechanisms and cybersecurity protocols.

b. User experience: This metric refers to various factors that dissuade users from getting the best value out of these digital systems. There are productive factors – such as passwords, multifactor authentication and other security mechanisms that can be annoying and discouraging, but ultimately is beneficial in maintaining the desired level of security. On the other hand, there

are some unproductive factors, such as limited network infrastructure, unaffordable network charges or poor design of digital applications.

c. User attitudes: The third metric deals with the how much trust users have in the public and private digital systems to share their data securely with the entities. The answer to this can be synthesized from surveys that cover user concerns with privacy, new technologies, level of trust in their government agencies, among others. The user attitude, however, cannot be directly correlated to the system's actual security efficacy or the user's actual behaviour. As an instance, it has been observed that users still rely on social media platforms for news, despite their role being scrutinized in terms of failure to prevent propagation of false news.

d. Digital user behaviour: The final factor deals with the extent at which users engage with these digital platforms despite the above discussed dissuading factors and level of trust in these systems and agencies running them. The extent can be gauged from the data available from customer trends, interactions on social media, e-commerce, and digital payments penetration across the society.

However, the main factor that drives the user trust is the user action. The more users engage with the system, the more one can infer on the level of user trust on these digital systems. Ultimately, a highly evolved and stable digital system will produce more engaged users, irrespective of the stability and developing status of an economy.

2.2 Scope of the study:

The identified scope of the study is to carry out the literature review of the Service Quality & Performance models to understand the variation of different parameters. In the "Research Methodology" section I have identified a model which is named as "Customer Model" which is developed after discussion with Telecom Industry Veterans. The idea is to check the validity of the model and how the dimensions identified (which are completely different from the classical SERVQUAL & SERVPERF dimensions) are relevant in the current Telecom scenario.

Although SERVQUAL and SERVPERF provide valuable service quality discernments, these methods are not fully suitable to the Indian telecom industry context due to their inability to

focus on specific telecom effects like 4G/5G network performance, digital interfaces & communications, and thus constantly evolving customer expectations. A more made-to-measure approach like introducing technical KPIs, digital customer experience metrics, and telecom industry-specific factors would be more pragmatic. Some **shortcomings** related to SERVQUAL & SERVPERF in the light of telecom world are as follows:

No#	SERVQUAL	SERVPERF
1.	**Perception vis-à-vis Expectation:** SERVQUAL talks about gauging the gap between customer perceptions and customer expectations, which can be problematic in telecom, as in telecom expectations are many times influenced by product/service marketing, word of mouth, and outer factors beyond service providers' control.	**Does not take Customer Expectations into account** – SERVPERF focuses mainly on performance, which may not be suitable to provide a holistic view of service quality in a fierce competitive telecom market like India where customer expectations constantly changing so does the expectations.
2.	**High technology reliability** – Telecom services heavily dependent upon infrastructure (cloud network), reliability, and speed, the areas that SERVQUAL does not address explicitly.	**Does not Adequately Reflect the Network Experience** – Performance metrics such as latency, call drop rates, data speed, network coverage area etc., are crucial in telecom industry but SERVPERF are not directly addressing those areas.
3.	**Constant shift in Customer Behavior** – Alongside digital transformation, self-service portals where customer can choose their own service plans, and agentic AI-driven customer support, traditional SERVQUAL dimensions (e.g.; tangibles and responsiveness) is not able to fully	**Overreliance on Performance** – Whereas performance is the key concern, telecom quality is also designed by the ROI (return-on-investment) which is combination of pricing, customer support, and bundled

	apprehend the modern telecom customer experiences.	services, which those are explicitly addressed by SERVPERF.
4.	**Difficulties in Calculation the benefits drawn from Intangible Services** – Contrasting hospitality or retail services, telecom areas are highly intangible, technology and data-driven, making the main attributes in SERVQUAL like empathy and assurance less significant when these are compared to pure technical performance.	**Provides Insufficient Insights into Digital and Omni-Channel interactions –** In these day's telecom users interact mostly through apps, chatbots, and self-service portals, requires a different judgement approach than traditional F2F (face-to-face) over the counter discussions.

2.3 Gap Analysis & Research Objectives:

A set of gaps have been identified and analyzed thoroughly based on the thematic literature review from where the questions are formed which leads to frame objectives of the work. Each of the themes are the gaps identified as are worded appropriately to evolve the questions lead to research objectives.

Table 2. 2 Gap Analysis & Research Objectives

Sl#	Gap Identified	Questions	Objectives
1	Influencing factors for service quality & performance parameters to deliver exceptional and differentiated customer experience.	What are the service quality and performance parameters that are influential in bringing an unique customer experience?	To find out the service quality & performance parameters that are instrumental in delivering exceptional and differentiated customer experience.

2	Customer & employee mindset on different situations in the customer journey.	What are the customer mindsets in different situations throughout the customer journey?	To examine customer mindset and identify the obstacles in resolving the customer journey which leads to have the customer as a mouthpiece of the service providers.
3	Service delivery process leading to better customer experience.	How to develop the better service delivery process which can be instrumental in delivering customer delight?	To develop a service delivery ecosystem (process & tool) to measure the service quality & performance which in turn helps to enhance customer experience.
4	Data and insights to improve service quality & performance.	How to use technology to capture the online and off-line customer experience and create a predictive model for better customer experience?	Use Technology to create insights from the collected data and take automated corrective actions to improve service quality & performance
5	The common service quality & performance parameters impacting the customer satisfaction score.	How to figure out the aspects that impedes the customer experience?	To find out what went wrong due to wrong selection of parameters to avoid the future failure and create a bulletproof strategy.

Chapter 3: Research Methodology & Survey Formation:

3.1 Research Methodology:

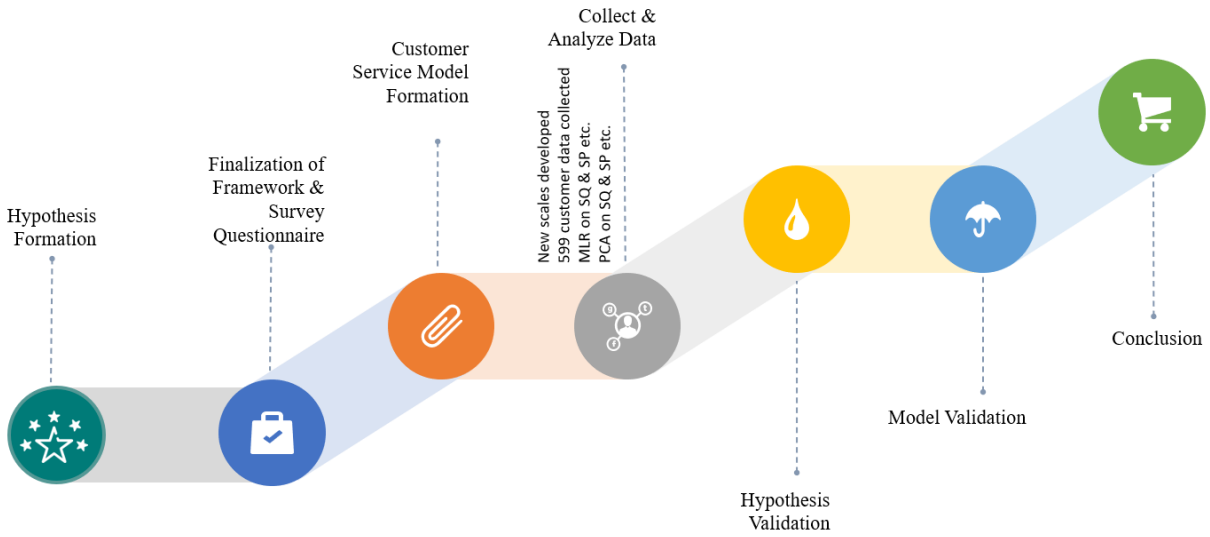
It would be a two-pronged approach – qualitative research would aim to identify the gap in the available literature on customer experience while the other is to comparatively examine the applicability, appropriateness, and strength of the service evaluation methodologies in terms of service quality & performance that has direct effects the customer experience.

Information quality, Service quality, Service performance and perceived price are the things, which can make or break the customer experience. Survey questionnaire will be developed, and primary data would be collected to corroborate the hypothesis made with the customer model & validation for customer experience mapping.

The study and data collection would in limited to **Telecom** only.

The methodology is defined in the following diagram:

Figure 3. 1 Research Methodology



This is a qualitative study and adopts six dimensions of Service Quality and five dimensions of Service Performance. These dimensions are Awareness, Trust, Personalization, Fulfillment, Assurance and Remodeling for Service Quality. The framework may be referred to as ATPFAR in short. In case of Service Performance, Awareness is not a part as customer already know the product and judging the performance of the same. So, for Service Performance the framework is referred as TPFAR.

A superset questionnaire has been designed for both Service Quality & Performance. Data will be analyzed based on the relevance. The questionnaire has been distributed amongst the users to capture the survey results. Check **Table 3.2** for the survey questionnaire. Answer will be captured through Likert scale (1-5).

The hypothesis formation has been detailed out in **Hypothesis Formation section**.

Data analysis will be conducted based on statistical test followed by the validation of hypothesis and then finally conclusions will be drawn. Summation will depict the conclusion and the recommendation.

3.2 Framework Finalization:

Survey Framework:

The primary data is supposed to be collected in two different data sets, one for the demographics like gender ratio, marital status, location etc. and another on mainly the superset questionnaire on Awareness, Trust, Personalization, Fulfilment, Assurance, Re-modelling etc. Below are the details of the tables with different range of values considered during the capture of the survey data.

Table 3. 1a Survey Attributes

Attribute Name	**Attribute Description**	**Variable Name**	**Values**
Communication Service Provider (SP)	Name of the Telecommunication Service Provider	X1	Vodafone-Idea , Bharti-Airtel , Reliance Jio , BSNL , Tata Teleservices , Other
Type of Service Used	Kind of Service used by consumer	X2	Mobile, Fixed Line, Broadband, Other
Mobile/Broadband Technology	Type of Radio Access	X3	5G, 4G. 3G
Class of Service	Service Mode	X4	Postpaid, Pre-paid
Name of the Country	Name of the country where consumer resides	X5	Text Input (by default India)

Name of the City	Name of the city where consumer resides	X6	Text Input (by default Kolkata)
Set based on Age Group	The buckets of different age groups	X7	(< 18), (>= 18 & < 25), (>= 25 & < 35), (>=35 & < 45), (>= 45 & < 55), (>= 55).
Type of Gender	Gender of consumer	X8	Male, Female, "Prefer not to say"
Status (Marital)	Marital Status of the consumer	X9	Married, Unmarried, Divorced, Widower, Widow
Profession	The profession of the consumer	X10	Not working, Business, Student, Professional, Teacher, Retired Person, Housewife.

Here I have used Likert scale to capture the preference where 1 is the least value or very unlikely and 5 is the highest value or very likely.

Table 3. 2b Survey Questionnaires

Dimension	Questions	Variable Name	SQ and/or SP	Rating Scale
Awareness	How often do you get messages from your Telecommunication Service Providers about the offerings?	AWA1	SQ	1 – 5
	How good you are aware about different offerings provided by your TSP?	AWA2	SQ	1 – 5
	Are those offering messages came from TSP clear to you?	AWA3	SQ	1 – 5
	Do you get calls from customer care/IVR about any new launch?	AWA4	SQ	1 – 5
	What is the ease of understanding of the self-service portal about the information of the products and services?	AWA5	SQ	1 – 5
	Are all the benefits very clear to you with every offer?	AWA6	SQ	1 – 5

Trust	What according to you define the level of engagement with the Service Provider?	TRU1	SQ & SP	1 – 5
	What rate you can give the way CCR greet you?	TRU2	SQ & SP	1 – 5
	What is trust level about the interaction with the Service Provider?	TRU3	SQ & SP	1 – 5
	How clearly do the TSP communicate the IT infrastructure/upgrades time to time?	TRU4	SQ & SP	1 – 5
	Are the details of the billing transparent & clearly communicated?	TRU5	SQ & SP	1 – 5
	How do you rate your bill issues gets addressed by your TSP?	TRU6	SQ & SP	1 – 5
	What is your trust level on your TSP for accuracy of records?	TRU7	SQ & SP	1 – 5

Personalization	How do you rate your TSP to understand your exact service requirements?	PER1	SQ & SP	1 – 5
	Are you suggested with the offer according to your need?	PER2	SQ & SP	1 – 5
	What is your rating about your personal need been taken care of by the TSP?	PER3	SQ & SP	1 – 5
	How satisfied you are for your TSP capturing your personal feedback?	PER4	SQ & SP	1 – 5
	How do you rate the behavior of CCR in case any problem reported?	PER5	SQ & SP	1 – 5
Fulfillment	What is your level of satisfaction from the services provided by the TSP?	FUL1	SQ & SP	1 – 5
	What is your rating? "Ease of use"	FUL2	SQ & SP	1 – 5

	How do you want to rate the call drops during a voice call?	FUL3	SQ & SP	1 – 5
	How do you want to rate the issue while watching a video?	FUL4	SQ & SP	1 – 5
	Are you satisfied with the data connection speed?	FUL5	SQ & SP	1 – 5
	How well are you able to activate/de-activate VAS?	FUL6	SQ & SP	1 – 5
	How do you want to rate the connectivity in your regular way?	FUL7	SQ & SP	1 – 5
Assurance	How do you want to rate when you want to report a problem?	ASU1	SQ & SP	1 – 5
	How efficiently the CCR grasp the problem reported by you?	ASU2	SQ & SP	1 – 5
	How do you want to rate the ability of the CCR to solve the problem?	ASU3	SQ & SP	1 – 5

	How do you rate the response time while logging an incident?	ASU4	SQ & SP	1 – 5
	What is your level of satisfaction of a problem just got resolved?	ASU5	SQ & SP	1 – 5
	Do the TSP keep the promise to resolve the problem in time?	ASU6	SQ & SP	1 – 5
Remodeling	Which offers do you think should be continued by the TSP?	REM1	SQ & SP	Airtel 448, BSNL PV 1669, Jio 1 year Unlimited, Vodafone Red 499 etc.
	What value pack you are expecting? Which part of the value pack is pinching hole in your pocket?	REM2	SQ & SP	Voice-Data-SMS combo, Data limit 2GB/day not good etc.
	How do you rate the competitors offer in	REM3	SQ & SP	1 – 5

	comparison with that of your TSP?			
	How do you rate the competitor offer pricing against that of your TSP?	REM4	SQ & SP	1 – 5
	How do rate the effective of blocking the spurious and cold calls by the TSP?	REM5		1 – 5
	How well do you think your TSP is bringing all the tech changes to the customers? (up to date technology is available)	REM6	SQ & SP	1 – 5
	How comfortable are you in advocating your TSPs products to others?	REM7	SQ & SP	1 – 5
	How open are you in giving feedback in different social media about your TSP?	REM8	SQ & SP	1 – 5
Overall Satisfaction	What is your overall satisfaction on Service Quality?	SQ Score /	SQ & SP	1 – 5

		SP Score		

3.3 Hypothesis Formation:

Below are the six different hypothesis that have been considered for this analysis. As per the classical statistical method H_0 represents the Null Hypothesis whereas H_1 represents the Alternative Hypothesis. Following are the six different types:

Hypothesis on Gender between Service Quality Dimensions & Customer Experience:

$H1_0$: Gender has no effect between the 6 (six) dimensions defined for Service Quality and the customer satisfaction.

$H1_1$: Gender has significant effect between the 6 (six) dimensions defined for Service Quality and the customer satisfaction.

Hypothesis on Gender between Service Performance Dimensions & Customer Experience:

$H2_0$: Gender has no effect between the 5 (five) dimensions defined for Service Performance and the customer satisfaction.

$H2_1$: Gender has significant effect between the 5 (five) dimensions defined for Service Performance and the customer satisfaction.

Hypothesis on Age Groups between Service Quality Dimensions & Customer Experience:

$H3_0$: Different age groups has no effect between the 6 (six) dimensions defined for Service Quality and the customer satisfaction.

$H3_1$: Different age groups have significant effects between the 6 (six) dimensions defined for Service Quality and the customer satisfaction.

Hypothesis on Age Groups between Service Performance Dimensions & Customer Experience:

$H4_0$: Different age groups has no effect between the 5 (five) dimensions defined for Service Performance and the customer satisfaction.

$H4_1$: Different age groups have significant effects between the 5 (five) dimensions defined for Service Performance and the customer satisfaction.

Hypothesis on Relation between Service Quality Dimensions & Customer Experience:

$H5_0$: All the 6 (six) dimensions which are defined for the Service Quality and the Customer Satisfaction have no significant relation between them.

$H5_1$: All the 6 (six) dimensions which are defined for the Service Quality and the Customer Satisfaction have significant relation between them.

Hypothesis on Relation between Service Performance Dimensions & Customer Experience:

$H6_0$: All the 5 (five) dimensions which are defined for the Service Performance and the Customer Satisfaction have no significant relation between them.

$H6_1$: All the 5 (five) dimensions which are defined for the Service Performance and the Customer Satisfaction have significant relation between them.

3.4 Customer Service Model Formation:

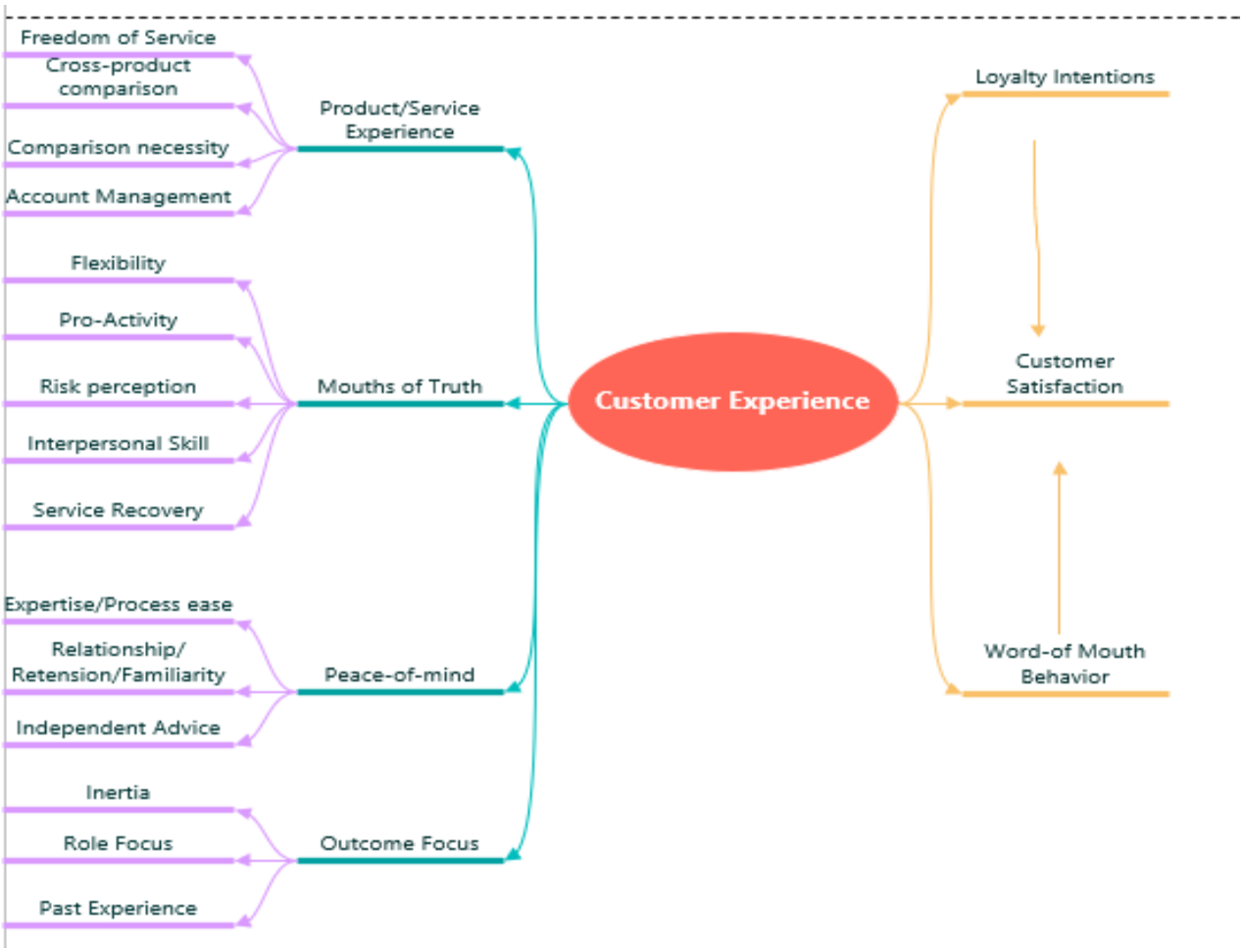
In Channel Sales Marketing, BoFu (Bottom of Funnel) shows the closing state, where actual sales happen thus converting the regular customer to a loyal customer to such an extent that the person later can be represented as brand supporter (or advocate) and can act in future as someone who can sway over the company's target audience (brand ambassador). As per the "80/20" rule or per Pareto Principal, 80% sales are coming from the 20% loyal customer thus companies are stressing upon mostly on these customer

base. The literature study that I have done in the area of service quality, service performance & customer experience, are mostly based on several white papers, journals and Webinars from HBR, MIT, McKinsey, TM Forum, Gartner, Forrester, ResearchGate etc. I have understood the need of identifying some pragmatic categories based on current telecom market scenario which can lead to conceive a conceptual customer framework. The conceptual framework will help us to develop an idea on how to identify the customer journey in terms of service quality & performance. Broadly a customer lifecycle in telecom industry is divided into the following phases[162][165].

- Buying
- Using
- Sharing

From the above lifecycle journey a board conceptual framework can be designed as below:

Figure 3. 2 Conceptual Model for Customer Experience [*Phil Klaus, March 2013*]



This framework can give the input on what customer are looking for in short & long term which can also related to customer lifecycle and customer lifetime value.

Focus Group Discussion with Industry Stalwarts:

Objectives:

1. The finalization of the questionnaire.
2. Identify the linear model's idea required for the customer service model.

Participants:

1. Global Director – Head of AI Ideation & data Strategy, Ericsson
2. Global Portfolio Director – Cloud Strategy, 5G, Telecom Expert, Ericsson
3. Vice President – Telecom Enterprise Strategy, Tech Mahindra
4. Associate Vice president – Infosys Consulting
5. Global Portfolio director – Managed Services Operation, Ericsson

Duration of the discussions: 2 days

Discussion Points:

Day 1 (2 hours):

1. Initially a draft questionnaire got prepared before the meeting and circulated amongst the focus group persons to go through and prepare their initial opinions on that.
2. Firstly, each of the six dimensions were discussed in the context of the current telecom scenario.
3. As the moderator, I explained the Parasuraman model to the group and sought their suggestions on the dimensions prepared which are different from the Parasuraman model but according to the telecommunication parlance.
4. Same thing happened for the items under each dimension to finalize each of the items to its' totality.
5. After much deliberation the group reached a consensus and agreed on the six dimensions and thirty-seven items which are defined in Table 3.2b

Outcome: The first objective was met.

Day 2 (1.5 hours):

The discussion started to finalize the linear model idea for the customer service model. Different models had been checked from the other industry verticals like Retail, Travel along with the models defined by the TMForum, Gartner etc. The service challenges were discussed at length and the perception-expectation gap discussed in terms of customer experience. Finally, it came out that to create a customer service model based on some non-demographic variables related to service quality & performance as the framework alone is not a sustainable model for the future growth of revenue.

We finally concluded that a customer service model can provide the elasticity to embrace the parameters from those categorized dimensions of service quality & performance, while keeping customer lifecycle vis-à-vis in mind. These clustering of subscribers help to get the much-needed vision of fitment to the parameters compatible to each of the defined cluster, thus provide the justification of the framed survey questionnaire. These models depict the temporal aspects of one subscriber spending on the telecom services starting as a new customer to graduate to an engaged customer thus becoming an advocate of the service provider to other prospective customers, can heightens the customer journey to the desired

state customer delight. That is why, based on the focused group discussion with these senior industry professionals 4 (four) linear models such as “Consumption”, “Engaged”, “Satisfaction” and “Advocacy” are chosen. The explanation of each of them in the light of customer lifecycle is given below:

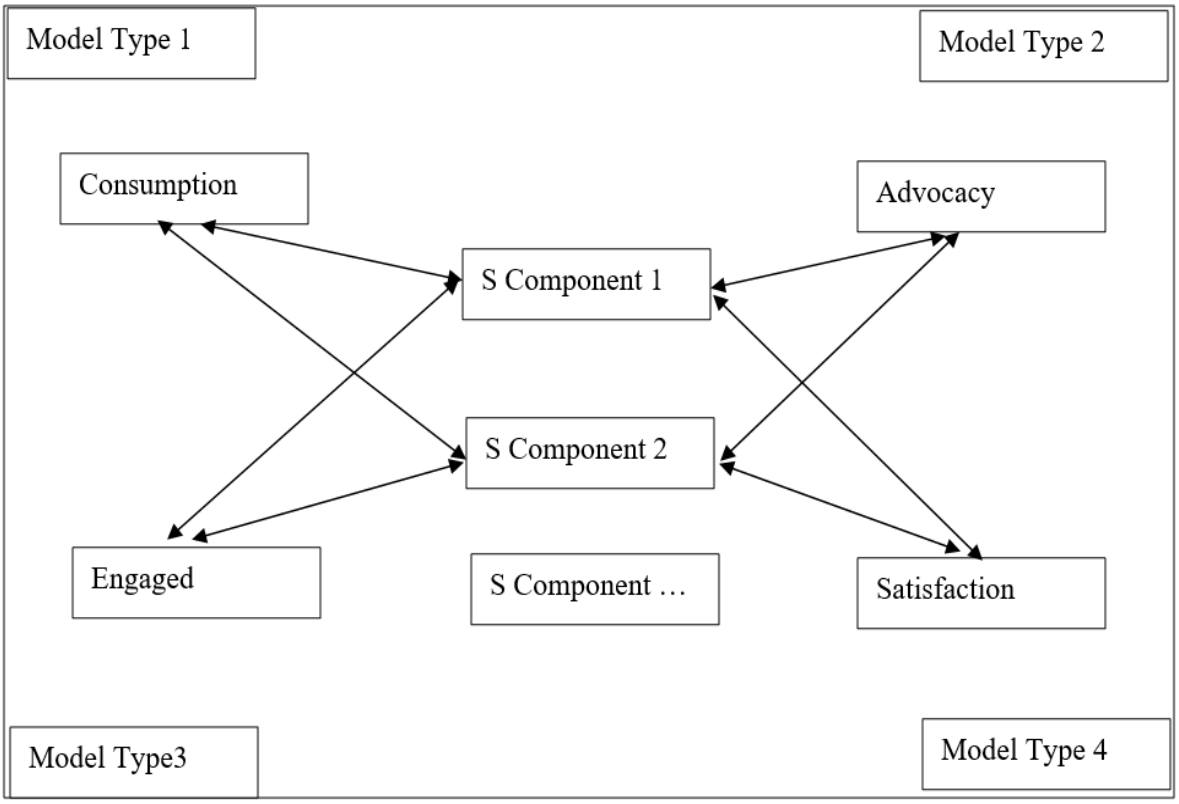
- Consumption: This is the early stage of customer lifecycle model where the customer gets aware of the product/service (mostly discovery), interact, and chose to be on boarded.
- Engaged: This is the next stage of the customer lifecycle where customers use the service, may go for value added services, pay for the services, renew the contract etc.
- Satisfaction: This is ultimate stage that each of the service providers want to achieve. This can build the long & very-long term relationships with their customer and convert them to a loyal to very loyal customer.
- Advocacy: This is the stage where customers are happy about the services rendered and willing to share the experiences with their friends, families, and in open forums or in social media.

Outcome: The second objective was met.

These four models are hypothesized to explain the variation in terms of customer satisfaction from the 6 (six) dimensions in case of SQ and the 5 (five) dimensions in case of SP.

The NPS (net promoter score) depends upon “Satisfaction” & “Advocacy” and are the ultimate desired states for any TSP (telecom service provider) as these loyal customers are the backbone to the organization top-line revenue. This diagram of the Customer service model can be depicted in the following way:

Figure 3. 3 Customer Service Model [174]



Focus Group Discussion with Telecom Customers (where I was the moderator):

Objectives:

3. Discussion with telecom customers based on the **SERVQUAL model** and make them understand the details of the model.
4. Interaction with them to gather their take (**perceptions, expectations, and suggestions**) on the service quality dimensions.
5. Agreement on the **new scale (ATPFAR)** defined and the questionnaire prepared.

Participants:

6. Vodafone Customer (age 52) – Suburb Area, Kolkata, West Bengal
7. Jio Customer (age 24) – Adjacent Area, Kolkata, West Bengal
8. Multi-Vendor Customer - having Jio & Airtel (age 22) – New Town Area, West Bengal
9. Multi-Vendor Customer - having Jio & Vodafone (age 26) – Main City Area, Kolkata, West Bengal
10. Airtel Customer (age 44) – North 24 Parganas, West Bengal
11. BSNL Customer (age 62) - Main City Area, Kolkata, West Bengal

Duration of the discussions: **110 mins**

Discussion Points:

1st 20 mins:

6. As this was a virtual session, I first ran an **introduction** session for **2 mins**.
7. Then I explained the SERVQUAL methodology along-with the parameters like **Tangibles, Reliability, Responsiveness, Assurance & Empathy for 15 mins**.
8. We took another **3 mins** for **doubt clearance**.

Outcome: The first objective was met.

2nd 60 mins:

Once the initiation part is over, I started asking specific questions related to the parameters I described to them, which are as follows:

Tangibles (Physical Aspects – 10 minutes)

- How do you perceive the physical appearance of our service centers, SIM cards, and network towers? – Any suggestion on improvements like equipment's or digital interfaces etc.
- Do you find the telecom provider's mobile app and website user-friendly and visually appealing?

B. Reliability (Service Dependability – 15 minutes)

- How consistent is the network coverage in your area? Do you experience frequent call drops or slow internet speeds?
- Have you ever encountered billing discrepancies? If yes, how were they resolved?

C. Responsiveness (Speed & Helpfulness – 10 minutes)

- When you contact customer service, how quickly do they respond?
- Have you experienced delays in service activation, issue resolution, or refund processing?

D. Assurance (Trust & Security – 10 minutes)

- Do customer service representatives seem knowledgeable and helpful when solving issues?

- Do you feel safe conducting mobile transactions (e.g., bill payments, mobile banking)?

E. Empathy (Customer Care & Personalization – 15 minutes)

- Does your telecom provider listen to your concerns?
- How easy is it to reach customer service when you need help?

Outcome: The second objective was met.

3rd & Last 30 mins:

Basis on the concerns raised by the customers, I explained the need of the **new scale**

which can take care the shortcomings of the SEVQUAL model in Telecom scenario (earlier explained in page no# 79-81) but with the new parameters defined like **Awareness, Trust, Personalization, Fulfilment, Assurance, Remodeling** etc., along-with the questions developed for each of the sections can encompass the customer delights extensively. The session ended with the agreements from the participants.

Outcome: The third objective was met.

3.5 Survey Methodology:

Following is the methodology I have used for my research in a nutshell. However, most of the things are described in detail in the previous sections.

Table 3. 3 Methodology/ Tools/ Instruments used

Objective of data collection	Size of the Samples Collected (No# of participants)	Tools/ Instruments/ Design of Samples etc., to be used	Type of Samples (Organization level/ Industry / Specific Community etc.)	Categorization of the type of Samples (Ex: Fortune 500 companies etc.)	Level (State)

The objective is to collect data for demographic as well as non-demographic data based on the questionnaire formed for mobile telecom subscriber only. These can be used for further analysis to evaluate the hypothesis made.	599	The details of the model are given above which is based on group discussion amongst the telecom veterans. The questionnaire is formed based on the dimensions and after very careful discussions with the guide. SPSS & R-Studio used to do the data analysis.	The questionnaire has been circulated amongst the telecom industry professional and their family members to identify parameters behind the decision making of the population when they are very much aware of the product(s).	Since this survey is for targeted customer so the survey questionnaire has been shared amongst the fortune company employees and their family members.	The survey has been done nationally.

Chapter 4: Data Collection, Analysis & Interpretation:

4.1 Data Collection & Analysis:

Likert scale of size 1-5 has been used to capture the survey data and the questionnaire has been prepared in line with that. So, data collection was done unambiguously and without any prejudice.

To check the reliability of the scale defined, I have calculated Cronbach Alpha which is a very common methodology to check the scale reliability. It is a coefficient of reliability (or consistency). Cronbach's Alpha is derived to check the reliability of the 37 variables for Service Quality and 31 variables for Service Performance.

I have used SPSS to calculate Cronbach Alpha. The results are shown below for this dataset. Alpha values between 0.80 and 0.90 is usually preferred. In this case we got 0.858 which falls in the preferred range.

Table 4. 1 Reliability Statistics of Service Quality Variables

Tool	Cronbach's Alpha	N of Items
SPSS Statistics	0.858	37

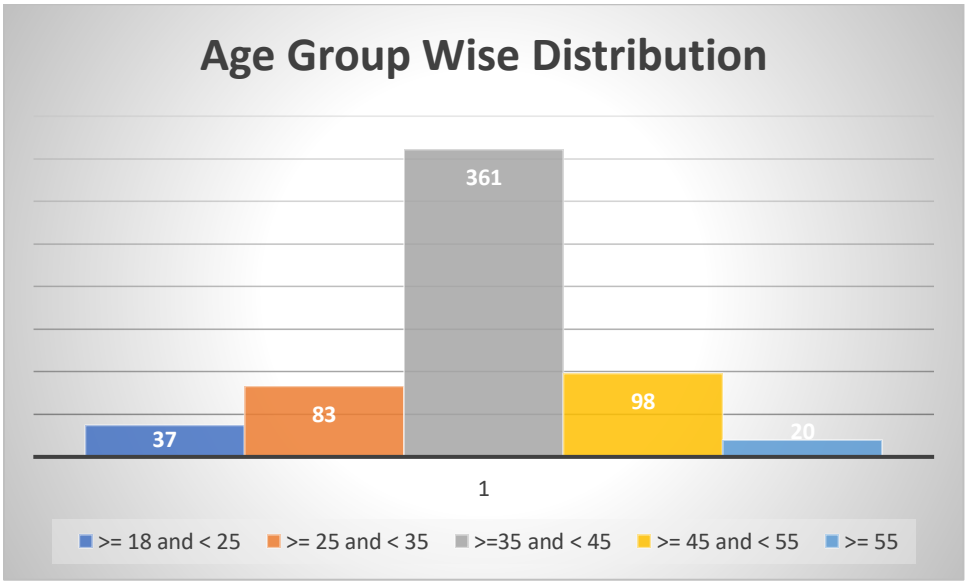
Table 4. 2 Reliability Statistics of Service Performance Variables

Tool	Cronbach's Alpha	N of Items
SPSS Statistics	0.845	31

Demographic Data:

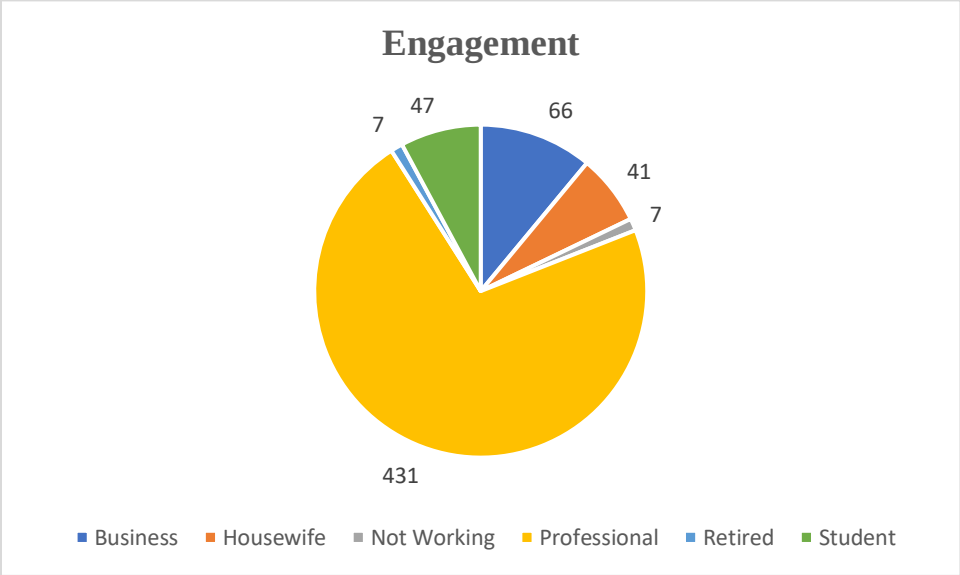
The primary data collected using the survey feedback form was mainly from New Town, Kolkata (India) location and hence we can ignore both the city and country to eliminate any location biasness from the data itself.

Figure 4. 1 Age Group Wise Distribution



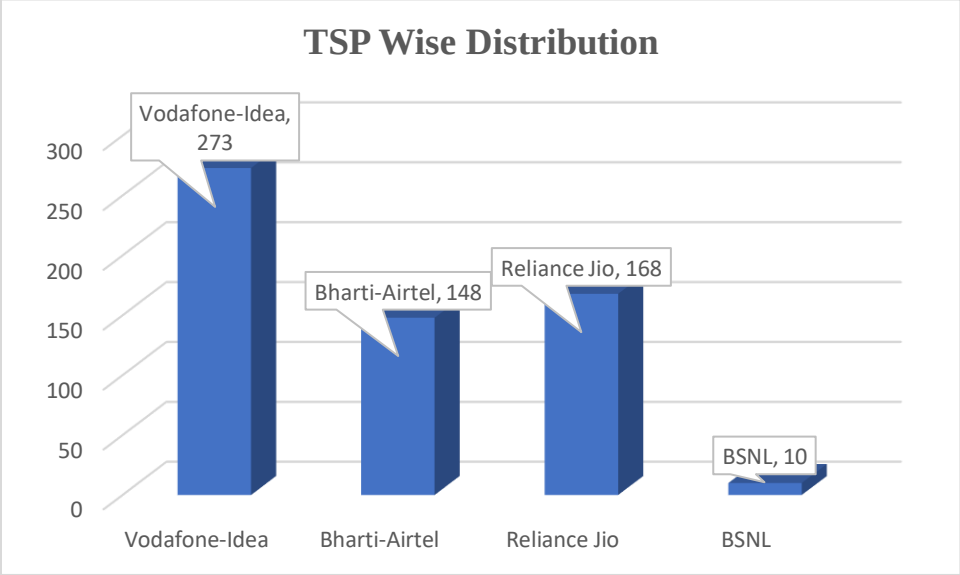
More than 60% of respondents are between 35 to 45 years of age and around 80% are under the age of 45.

Figure 4. 2 Engagement Wise Distribution



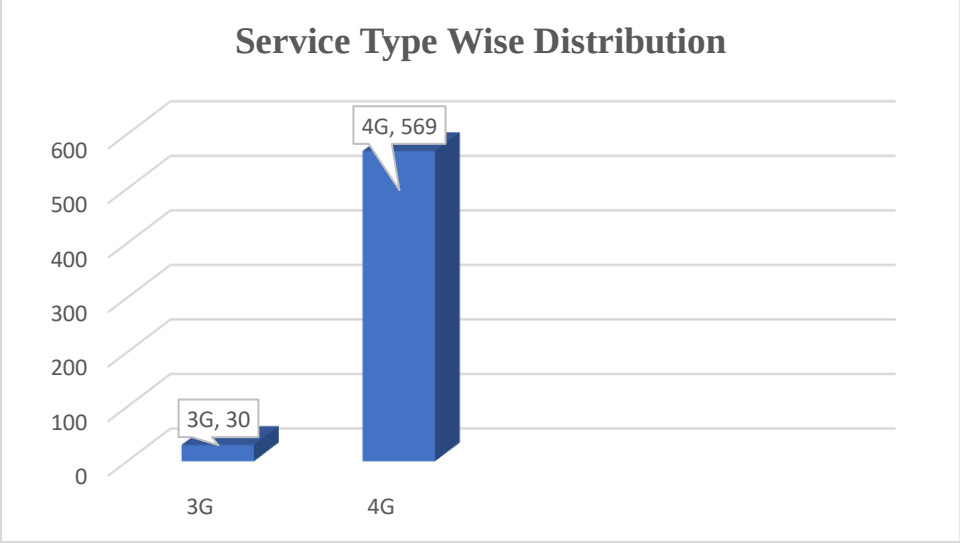
72% respondents are professionals.

Figure 4. 3 Telecom Service Provider Wise Distribution



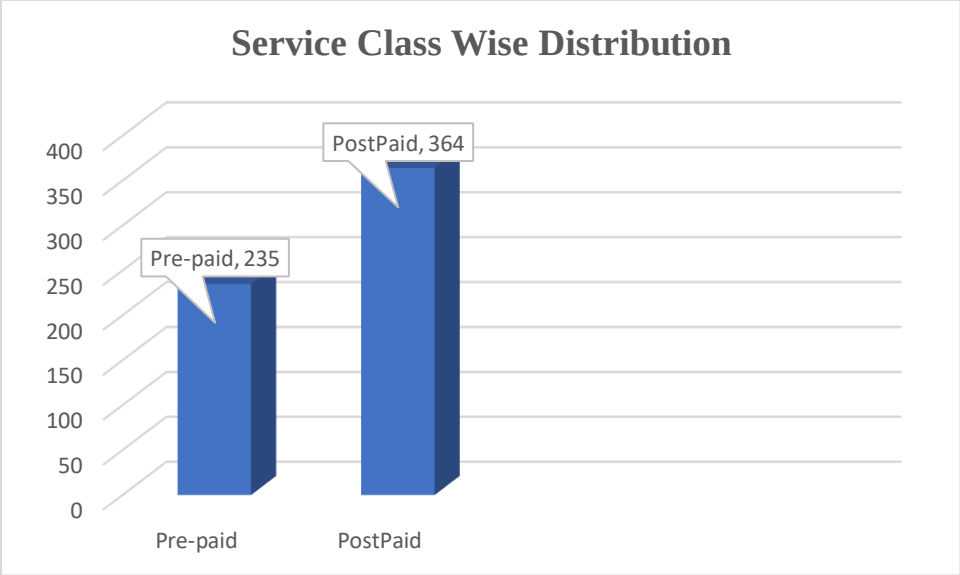
45% respondents are having Vodafone-Idea connection. More than 98.3% connections are coming from Vodafone-Idea together with Bharti-Airtel and Reliance-Jio.

Figure 4. 4 Service Type Wise Distribution



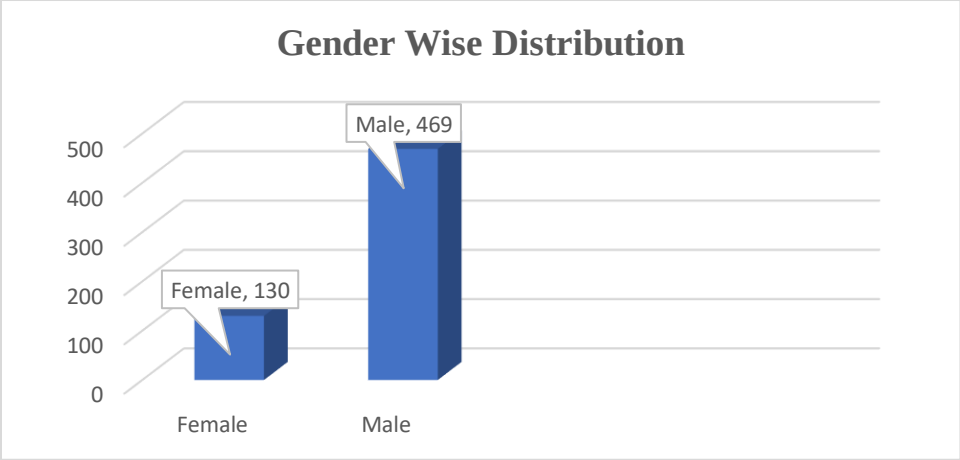
Almost 95% of the respondents are 4G subscriber while almost 5% are still not migrated to the faster network.

Figure 4. 5 Service Class Wise Distribution



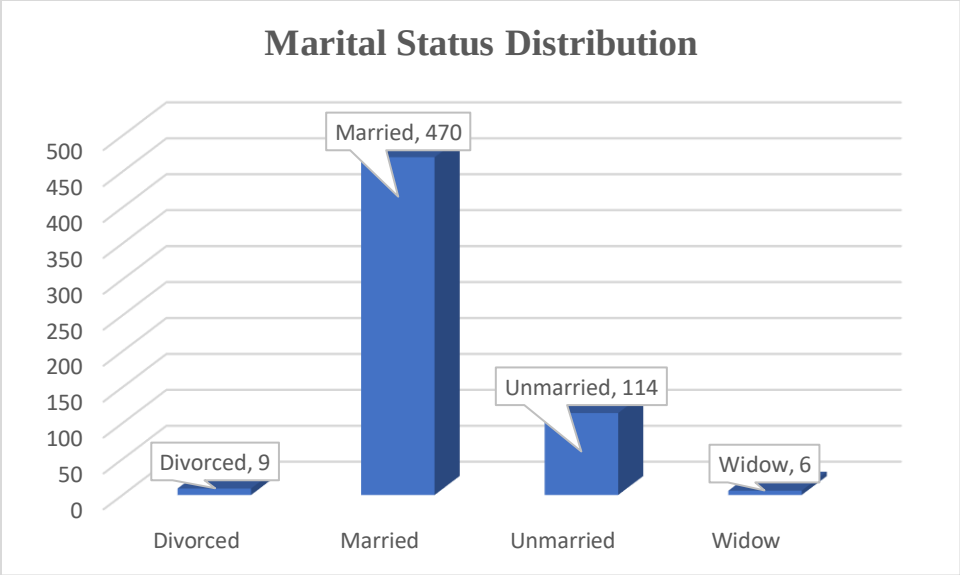
Around 70% respondents are Postpaid, and rests are Pre-paid subscribers.

Figure 4. 6 Gender Wise Distribution



Around 78% respondents are Male, and rests are Female subscribers.

Figure 4. 7 Marital Status Wise Distribution



Around 78.46% respondents are Married persons.

During the 2 FGD discussions (one with Industry Stalwarts and another with telecom users) it came out clearly that SERVQUAL & SERVPERF are not enough to explain the Telecom customer expectations & perceptions. Although earlier in Chapter 1 & 2 we defined the shortcomings of the models, but some extra points came out frequently in the discussions as follows:

1. Complexity of those models.
2. Subjectivity in expectations & sometime exclusion of expectations.
3. Static nature.
4. Limited scope.
5. Context dependency.
6. Potential of bias.
7. Lack of diagnostic insights etc.

As these all are leading to the demand of new scale **ATPFAR** to perfectly capture the customer expectations.

1. Awareness of the service offerings.
2. Trustworthiness of the service provider.
3. Fulfilment efficacy.
4. Service assurance perception.
5. Remodelling of rendered services.
6. Degree of personalization in terms of offerings.

Descriptive Statistics of the Dimensions (Service Quality & Service Performance):

ATPFAR (A-Awareness, T-Trust, P-Personalization, F-Fulfilment, A-Assurance, R-Reliability) dimensions are used in this survey and items are defined under each of the dimensions. These are the superset for both the Service Quality & Performance. All the collected survey feedback has been captured and fed to the standard statistical tool such as SPSS statistics. The derived mean score is `3. For each of the ATPFAR dimensions Awareness, Trust, Personalization, Fulfilment, Assurance and Remodelling it is to be noted that the Weighted Scores is having average score ~3 including separately Service Quality and Service Performance Scores.

The result shows that the overall satisfaction of the respondents is medium across all these six dimensions.

Table 4. 3 Response Wise Distribution

	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
Awareness	599	3.19	0.035	0.865
Trust	599	3.15	0.029	0.717
Personalization	599	2.84	0.041	1.008
Fulfilment	599	3.27	0.028	0.677
Assurance	599	3.04	0.041	0.994
Re-modelling	599	2.99	0.031	0.755
SQ Score	599	3.13	0.026	0.646
SP Score	599	3.16	0.028	0.691
Valid N (listwise)	599			

Regression Analysis of Service Quality (SQ) Independent Variables:

For the Service Quality we have identified 6 dimensions which covers 37 independent variables. As a basis of the multiple linear regression where we have 37 independent variables corresponds to the dependent variable customer satisfaction. The result is depicted below:

Table 4. 4 Results of MLR (Multiple Linear Regression) of 37 Independent Variables (SQ)

R	R Square	Adjusted R Square	Std. Error of Estimate	R Square Change
.921	0.848	0.839	0.259	0.848

From the above table it can be inferred that **84.8%** of the customer satisfaction is dependent upon the 37 independent variables defined under 6 Service Quality dimensions.

The F test below contains the null hypothesis shows how the model explains the zero variance in the dependent variable.

Table 4. 5 Results of F Test (SQ)

ANOVA					
Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1 **Regression**	211.567	31	6.825	101.719	.000
Residual	38.042	567	0.067		
Total	249.609	598			

Also, following are the co-efficient values of the 37 independent variables for SQ.

Table 4. 6 Coefficients of 37 independent variables in Multiple Regression (SQ)

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	**Std. Error**	**Beta**		

(Constant)	0.154	0.107		1.446	0.149
AWA1	0.053	0.011	0.108	4.704	0.000
AWA2	0.058	0.011	0.125	5.493	0.000
AWA3	-0.042	0.015	-0.067	-2.761	0.006
AWA4	-0.036	0.011	-0.079	-3.343	0.001
AWA5	0.007	0.010	0.015	0.640	0.522
AWA6	0.011	0.016	0.019	0.646	0.518
TRU1	0.007	0.009	0.015	0.797	0.426
TRU2	0.057	0.016	0.100	3.514	0.000
TRU3	0.010	0.010	0.022	1.017	0.309
TRU4	-0.006	0.013	-0.011	-0.434	0.665
TRU5	0.026	0.015	0.048	1.777	0.076
TRU6	0.041	0.008	0.098	4.866	0.000
TRU7	-0.055	0.012	-0.128	-4.705	0.000
PER1	-0.039	0.015	-0.067	-2.653	0.008
PER2	0.050	0.012	0.126	4.176	0.000
PER3	0.024	0.011	0.056	2.084	0.038
PER4	0.008	0.010	0.017	0.824	0.410
PER5	0.029	0.009	0.070	3.225	0.001
FUL1	0.176	0.025	0.305	7.145	0.000

FUL2	0.040	0.024	0.069	1.669	0.096
FUL3	0.025	0.010	0.056	2.567	0.011
FUL4	0.083	0.010	0.183	8.543	0.000
FUL5	0.022	0.020	0.038	1.057	0.291
FUL6	0.058	0.017	0.091	3.473	0.001
FUL7	0.059	0.021	0.096	2.839	0.005
ASU1	0.042	0.018	0.074	2.283	0.023
ASU2	0.066	0.025	0.115	2.673	0.008
ASU3	0.016	0.026	0.027	0.595	0.552
ASU4	0.068	0.022	0.121	3.056	0.002
ASU5	0.056	0.021	0.099	2.668	0.008
ASU6	0.024	0.011	0.057	2.123	0.034
REM3	-0.055	0.026	-0.109	-2.086	0.038
REM4	0.061	0.023	0.129	2.686	0.008
REM5	-0.007	0.013	-0.017	-0.549	0.583
REM6	0.032	0.015	0.071	2.058	0.041
REM7	-0.043	0.018	-0.095	-2.414	0.016
REM8	0.010	0.014	0.023	0.695	0.488

To make it easier to find out the significance of the independent variables at 95% Confidence Interval, rows are highlighted in light blue where p-value is greater than 0.05. For p-values lesser than 0.05 and have negative coefficients are marked with grey (dark).

- The variables marked in light blue is not the significant ones.
- Amongst all the significant variables FUL1 has the highest significance or the **customer perception on the service provided by the TSP** has the highest significance.
- Some other significant variables are AWA1, AWA2, FUL4, ASU2, ASU4 etc. mostly talks about the **customer communication about the updates, uninterrupted quality of data connectivity, customer care representative's efficiency** etc.
- The variables those are significant but co-efficient are negative have adverse effect on the overall customer satisfaction score (AWA3, AWA4, TRU7, PER1, REM3, REM7). Mostly those are the **TSP's communication effectiveness, trust level to TSP, personalized requirement understanding, TSP's image** etc.

Regression Analysis of Service Performance (SP) Independent Variables:

For the Service Performance we have identified 5 dimensions which covers 31 independent variables. As a basis of the multiple linear regression where we have 31 independent variables corresponds to the dependent variable customer satisfaction. The result is depicted below:

Table 4. 7 Results of Multiple Linear Regression of 31 Independent Variables (SP)

R	R Square	Adjusted R Square	Std. Error of Estimate	R Square Change
.903	0.816	0.808	0.303	0.816

From the above table it can be inferred that **81.6%** of the customer satisfaction is dependent upon the 31 independent variables defined under 5 Service Performance dimensions.

The F test below contains the null hypothesis shows how the model explains the zero variance in the dependent variable.

Table 4. 8 Results of F Test (SP)

ANOVA					
Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1 **Regression**	232.774	25	9.311	101.588	.000
Residual	52.518	573	0.092		
Total	285.292	598			

Also, following are the co-efficient values of the 31 independent variables for SP.

Table 4. 9 Coefficients of 31 independent variables in Multiple Regression (SP)

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	0.083	0.107		0.780	0.436
	TRU1	0.042	0.010	0.081	4.162	0.000
	TRU2	0.040	0.017	0.065	2.313	0.021
	TRU3	0.012	0.011	0.024	1.122	0.262
	TRU4	0.019	0.015	0.033	1.292	0.197
	TRU5	0.019	0.017	0.033	1.157	0.248
	TRU6	0.086	0.009	0.193	9.375	0.000

	TRU7	0.004	0.013	0.008	0.290	0.772
	PER1	-0.034	0.016	-0.054	-2.094	0.037
	PER2	0.034	0.014	0.079	2.462	0.014
	PER3	0.010	0.013	0.022	0.777	0.437
	PER4	0.015	0.011	0.028	1.285	0.199
	PER5	0.026	0.010	0.059	2.602	0.010
	FUL1	0.162	0.028	0.263	5.849	0.000
	FUL2	0.043	0.026	0.069	1.668	0.096
	FUL3	0.037	0.011	0.077	3.277	0.001
	FUL4	0.076	0.011	0.159	6.912	0.000
	FUL5	-0.014	0.023	-0.022	-0.582	0.561
	FUL6	0.087	0.019	0.126	4.502	0.000
	FUL7	0.069	0.022	0.105	3.108	0.002
	ASU1	-0.003	0.019	-0.005	-0.166	0.869
	ASU2	0.039	0.027	0.064	1.454	0.146
	ASU3	0.024	0.029	0.038	0.827	0.408
	ASU4	0.126	0.025	0.210	5.097	0.000
	ASU5	0.037	0.023	0.061	1.639	0.102
	ASU6	0.043	0.013	0.095	3.394	0.001
	REM3	0.004	0.027	0.007	0.148	0.882

	REM4	-0.035	0.024	-0.068	-1.494	0.136
	REM5	0.019	0.013	0.041	1.447	0.149
	REM6	0.011	0.016	0.023	0.721	0.471
	REM7	0.014	0.019	0.028	0.734	0.463
	REM8	0.032	0.014	0.069	2.215	0.028

Same as SQ independent variables, to make it easier to find out the significance of the independent variables at 95% Confidence Interval in SP, rows are highlighted in light blue where p-value is larger than 0.05. For p-values smaller than 0.05 and have negative coefficients are marked with grey (dark).

- The variables marked in light blue is not the significant ones.
- Amongst all the significant variables TR6 has the highest significance or the **customer perception on the service provided by the TSP** has the highest significance.
- Some other significant variables are FUL4, FUL1, FUL6, ASU4 etc. mostly talks about the **uninterrupted quality of data connectivity, personal satisfaction level, activation/de-activation of value-added services, customer care representative's efficiency** etc.
- The variable PER1is significant and due to its negative co-efficient it has adverse effect on the overall customer satisfaction score. It talks about the **personalized requirement understanding**.

Regression Analysis of Service Quality (SQ) Dimensions:

Now the shifted focus now has been upon the 6 dimensions of SQ (Service Quality) and their consolidated scores to do the MLR (Multiple Linear Regression) alongside with the overall customer satisfaction score. As a basis of the multiple linear regression where we have 6 dimensions corresponds to the dependent variable customer satisfaction. The result is depicted below:

Table 4. 10 Results of Multiple Linear Regression of 6 Dimensions (SQ)

R	R Square	Adjusted R Square	Std. Error of Estimate	R Square Change
.901	0.811	0.809	0.282	0.811

From the above table it can be inferred that **81.1%** of the customer satisfaction is dependent upon the 6 Service Quality dimensions.

The F test below contains the null hypothesis shows how the model explains the zero variance in the dependent variable.

Table 4. 11 Results of F Test (SQ)

ANOVA					
Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1 **Regression**	202.481	6	33.747	423.908	.000
Residual	47.128	592	0.080		
Total	249.609	598			

The table below is depicting the co-efficient of 6 dimensions of the SQ model. From the value it is clear that all 6 dimensions are significant.

Table 4. 12 Coefficients of 6 dimensions

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	**Std. Error**	**Beta**		
(Constant)	0.409	0.081		5.056	0.000
Awareness	0.077	0.015	0.103	5.017	0.000
Trust	0.088	0.020	0.098	4.504	0.000
Personalization	0.131	0.015	0.204	8.513	0.000
Fulfilment	0.229	0.022	0.240	10.228	0.000
Assurance	0.308	0.018	0.474	16.957	0.000
Re-modelling	0.046	0.016	0.054	2.965	0.003

Regression Analysis of Service Performance (SP) Dimensions:

The focus now has been shifted to the 5 dimensions of Service Performance and their consolidated scores to do the Multiple Linear Regression (MLR) against the overall customer satisfaction score. As a basis of the multiple linear regression where we have 5 dimensions corresponds to the dependent variable customer satisfaction. The result is depicted below:

Table 4. 13 Results of Multiple Linear Regression of 5 Dimensions (SP)

R	R Square	Adjusted R Square	Std. Error of Estimate	R Square Change
.916	0.839	0.837	0.278	0.839

From the above table it can be inferred that **83.9%** of the customer satisfaction is dependent upon the 5 Service Performance dimensions.

The F test below contains the null hypothesis shows how the model explains the zero variance in the dependent variable.

Table 4. 14 Results of F Test (SP)

ANOVA					
Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1 **Regression**	239.305	5	47.861	617.161	.000
Residual	45.987	593	0.078		
Total	285.292	598			

The table below is depicting the co-efficient of 5 dimensions of the SP model. From the value it is clear that except Re-modelling (highlighted in grey) all other 4 dimensions are significant.

Table 4. 15 Coefficients of 5 dimensions

	Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	0.152	0.074		2.047	0.041
Trust	0.239	0.019	0.249	12.477	0.000
Personalization	0.081	0.015	0.119	5.596	0.000

Fulfilment	0.308	0.022	0.302	14.166	0.000
Assurance	0.310	0.018	0.447	17.534	0.000
Re-modelling	0.025	0.015	0.027	1.593	0.112

Principal Component Analysis (PCA) of Service Quality:

Principal Component Analysis (PCA) method is used to ratify the finding from the previous multiple linear regression applied on all Service Quality dimensions (six) and 37 attributes underneath. This facilitates with an alternate scale for Service Quality measurement. SPSS is used to apply the PCA techniques.

PCA through SPSS produces KMO and Bartlett's Test results that are depicted in the below table. The "Kaiser-Meyer-Olkin" statistics value of 0.824 suggests that the factor analysis is good to use for the survey feedback data. In case of Bartlett's Test, the p value 0.0000 implies that the Chi-square statistic at 95% CI rejects the hypothesis that the correlation matrix of the variables is insignificant. In this case, the need of factor analysis is justified.

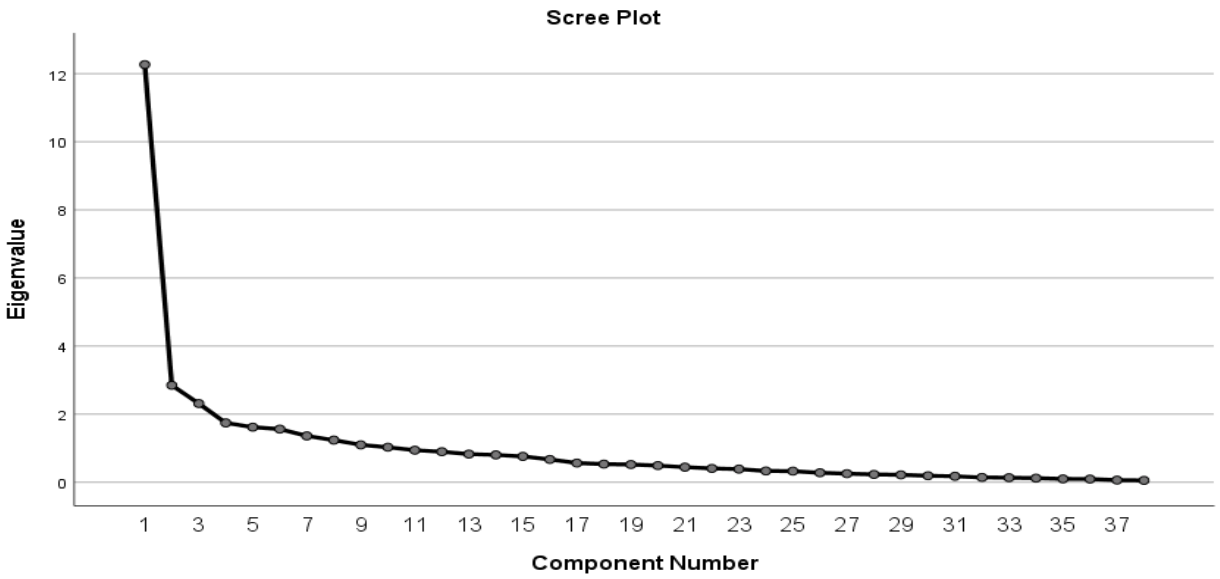
Table 4. 16 PCA KMO and Bartlett's Test Results

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.824

Bartlett's Test of Sphericity	**Approx. Chi-Square**	16230.271
	df	703
	Sig.	0.000

The PCA produces the Scree plot that shows the total variation in the dataset and it is explained by each of the components. It just helps us to identify how many of the components are needed to summarize the data. The Scree plot suggest that 4 components should be good enough to summarize the data here.

Figure 4. 8 Scree Plot



Following are the PCA outputs such as Component Matrix, Rotated Component Matrix and Total Variance Explained.

Table 4. 17 PCA Component Matrix

Variables	Component 1	Component 2	Component 3	Component 4
AWA1	0.018	0.350	0.473	-0.419
AWA2	0.294	0.252	-0.346	-0.259
AWA3	0.402	0.332	-0.191	-0.514
AWA4	0.298	0.475	0.447	0.013
AWA5	0.314	0.276	-0.409	-0.075
AWA6	0.583	0.586	-0.085	-0.094
TRU1	-0.065	0.024	0.140	0.005
TRU2	0.663	0.228	-0.138	0.115

TRU3	0.021	0.204	0.402	0.059
TRU4	0.638	0.197	0.249	0.237
TRU5	0.686	0.265	-0.072	0.105
TRU6	0.052	0.191	-0.142	0.203
TRU7	0.700	-0.122	-0.155	0.197
PER1	0.637	0.054	0.046	0.123
PER2	0.715	0.186	-0.154	0.012
PER3	0.524	0.349	-0.298	-0.040
PER4	0.488	0.195	-0.090	0.182
PER5	0.331	0.241	-0.315	0.404
FUL1	0.801	-0.210	0.099	-0.065
FUL2	0.758	-0.266	0.271	-0.057
FUL3	-0.398	0.052	0.008	0.362
FUL4	-0.409	0.036	0.003	0.357
FUL5	0.724	-0.366	0.230	-0.088
FUL6	0.631	0.205	-0.011	0.182
FUL7	0.744	-0.280	0.223	-0.127
ASU1	0.743	0.293	-0.025	0.016
ASU2	0.791	-0.120	0.147	-0.103
ASU3	0.829	-0.077	0.171	-0.058

ASU4	0.820	-0.184	0.121	-0.092
ASU5	0.814	-0.241	0.054	-0.029
ASU6	0.704	-0.088	-0.054	0.083
REM3	-0.317	0.512	0.403	0.049
REM4	-0.172	0.497	0.470	0.189
REM5	-0.215	0.078	0.479	0.403
REM6	0.451	-0.254	-0.161	0.290
REM7	0.517	-0.483	0.228	0.226
REM8	0.089	0.059	-0.270	0.386
SQ Score	0.876	0.032	0.046	0.076

Rotated Component Matrix

Table 4. 18 PCA Rotated Component Matrix

Variables	Component 1	Component 2	Component 3	Component 4
AWA1	0.057	0.267	-0.537	0.569
AWA2	-0.129	0.634	0.075	-0.182
AWA3	-0.004	0.827	-0.211	-0.033
AWA4	0.191	0.020	-0.032	0.670
AWA5	-0.165	0.527	0.295	-0.200
AWA6	0.040	0.559	0.241	0.260
TRU1	0.013	-0.092	-0.074	0.137

TRU2	0.313	0.233	0.355	0.021
TRU3	0.117	-0.189	-0.094	0.477
TRU4	0.540	-0.136	0.240	0.351
TRU5	0.346	0.225	0.324	0.100
TRU6	-0.166	0.019	0.345	0.017
TRU7	0.566	-0.006	0.324	-0.196
PER1	0.514	0.016	0.195	0.076
PER2	0.374	0.323	0.258	-0.031
PER3	0.024	0.507	0.321	-0.060
PER4	0.219	0.093	0.356	0.054
PER5	-0.070	0.028	0.687	-0.082
FUL1	0.855	0.042	-0.082	-0.063
FUL2	0.958	-0.110	-0.197	0.053
FUL3	-0.355	-0.376	0.303	0.089
FUL4	-0.357	-0.379	0.295	0.074
FUL5	0.972	-0.115	-0.243	-0.047
FUL6	0.376	0.077	0.335	0.126
FUL7	0.926	-0.028	-0.242	-0.005
ASU1	0.402	0.301	0.230	0.145
ASU2	0.815	0.092	-0.116	0.029

ASU3	0.832	0.067	-0.067	0.080
ASU4	0.866	0.069	-0.109	-0.032
ASU5	0.860	0.025	-0.033	-0.117
ASU6	0.606	0.051	0.172	-0.102
REM3	-0.365	-0.085	-0.042	0.668
REM4	-0.196	-0.230	0.067	0.732
REM5	0.054	-0.655	0.113	0.512
REM6	0.446	-0.203	0.337	-0.265
REM7	0.880	-0.496	-0.012	-0.077
REM8	-0.122	-0.126	0.549	-0.152
SQ Score	0.725	0.092	0.175	0.053

Figure 4. 9 Component Plot

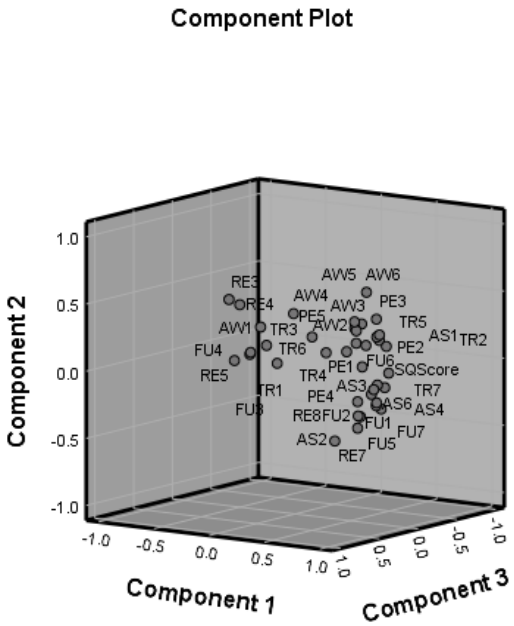


Table 4. 19 PCA Total Variance Explained

Components	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Var	Cum %	Total	% of Var	Cum %
1	12.266	32.279	32.279	12.266	32.279	32.279
2	2.848	7.496	39.775	2.848	7.496	39.775
3	2.312	6.084	45.859	2.312	6.084	45.859
4	1.742	4.585	50.444	1.742	4.585	50.444
5	1.617	4.255	54.699			
6	1.561	4.107	58.806			

7	1.360	3.580	62.386			
8	1.237	3.255	65.641			
9	1.097	2.886	68.528			
10	1.028	2.704	71.232			
11	0.941	2.475	73.707			
12	0.896	2.358	76.065			
13	0.827	2.177	78.243			
14	0.803	2.113	80.355			
15	0.759	1.997	82.352			
16	0.669	1.760	84.112			
17	0.563	1.482	85.593			
18	0.532	1.401	86.994			
19	0.519	1.365	88.359			
20	0.489	1.286	89.645			
21	0.442	1.164	90.808			
22	0.405	1.065	91.874			
23	0.385	1.014	92.887			
24	0.332	0.873	93.761			
25	0.326	0.859	94.620			
26	0.278	0.732	95.352			

27	0.253	0.665	96.017			
28	0.229	0.602	96.619			
29	0.217	0.571	97.190			
30	0.191	0.503	97.692			
31	0.175	0.460	98.152			
32	0.141	0.370	98.522			
33	0.134	0.352	98.874			
34	0.120	0.316	99.190			
35	0.099	0.260	99.450			
36	0.094	0.247	99.697			
37	0.062	0.164	99.860			
38	0.053	0.140	100.000			

The above table "Total Variance Explained" shows that four factors explains more than 50% of the variations of the entire explained data set. Looking at the rotated component matrix and the significant values (the value greater than 0.5, highlighted in grey) in component 1 portrays that **Assurance & Fulfillment are the two most important dimensions** in the SQ model though **Trust, Personalization & Re-modeling has some stake**.

- The independent item variables like **"Satisfaction Level with the Service Provider", "Easiness related to a Service", "Satisfaction due to Data Connectivity", "Connectivity at different location".** under **Fulfilment** dimension contribute heavily in the overall customer satisfaction score.

- The independent variables such as **"Customer Care Person to understand the Issue", "Solution Capability of the Care Person", "Response time of an incident", "Satisfaction Level to a Issue Resolved"**, **"Timeliness of the Issue Resolution"** under **Assurance** dimension contribute heavily in the overall customer satisfaction score.
- The variables such as **"Effectiveness of Service Provider communication during Infrastructure upgrade", "Accuracy & Transparency of keeping the record"** under **Trust** plays moderate role in influencing overall satisfaction score.
- The variables such as **"Advocacy for the Telecom Service Provider"** under **Re-modelling** have moderate significance on the overall satisfaction score.
- The variable such as **"Personalized Requirement understanding"** under **Personalization** dimension has some significance in driving overall customer satisfaction score.

  As per the analysis the first four factors are primarily taken into consideration as independent variables (as they can explain more 50% of the situations) from the Total Variance Explained table to do the EFA (Exploratory Factor Analysis) and use those in the regression alongside the dependent variable called Service Quality Score (SQ Score). The R Square value below suggest that these 4 factors could explain 77.5% variations in the overall satisfaction level in the data set. The first factor out of the all the factors is the most significant one in explaining the variations of overall customer satisfaction level here, and the ANOVA result shows a fair amount of fitness as the F-statistic is significant here.

Table 4. 20 Regression results of the chosen 4 factors

R	R Square	Adjusted R Square	Std. Error of the Estimate
.881	0.776	0.775	0.307

Table 4. 21 Results of F Test (SQ)

ANOVA					
Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1 **Regression**	193.724	4	48.431	514.773	.000[b]
Residual	55.885	594	0.094		
Total	249.609	598			

Table 4. 22 Coefficients of the chosen 4 factors in the regression

	Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	3.125	0.013		249.367	0.000
REGR factor score 1 for analysis 1	0.566	0.013	0.876	45.118	0.000
REGR factor score	0.021	0.013	0.032	1.648	0.100

2 for analysis 1					
REGR factor score 3 for analysis 1	0.029	0.013	0.046	2.348	0.019
REGR factor score 4 for analysis 1	0.049	0.013	0.076	3.908	0.000

Principal Component Analysis of Service Performance:

Principal Component Analysis (PCA) method is used to ratify the finding from the previous multiple linear regression applied on all Service Performance dimensions (five) and 31 attributes underneath. This facilitates with an alternate scale for Service Performance measurement. SPSS is used to apply the PCA techniques.

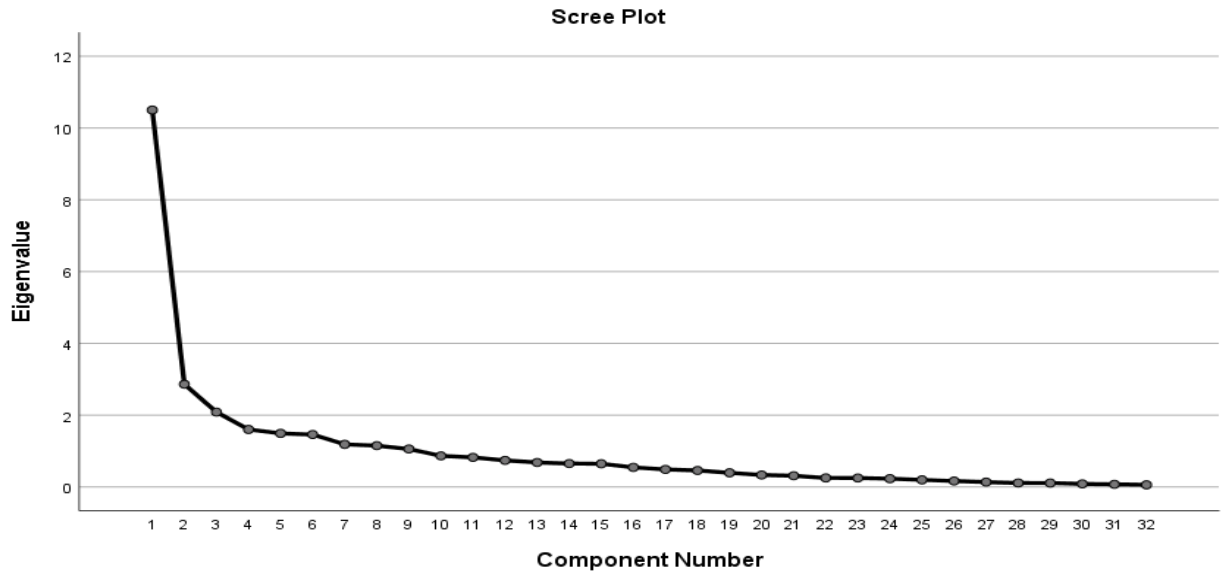
PCA through SPSS produces KMO and Bartlett's Test results that are depicted in the below table. The "Kaiser-Meyer-Olkin" statistics value of 0.830 suggests that the factor analysis is good to use for the survey feedback data. In case of Bartlett's Test, the p value 0.0000 implies that the Chi-square statistic at 95% CI rejects the hypothesis that the correlation matrix of the variables is insignificant. In this case, the need of factor analysis is justified.

Table 4. 23 PCA KMO and Bartlett's Test Results

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.830
Bartlett's Test of Sphericity	**Approx. Chi-Square**	16117.796
	df	703
	Sig.	0.000

The PCA produces the Scree plot that shows the total variation in the dataset and it is explained by each of the components. It just helps us to identify how many of the components are needed to summarize the data. The Scree plot suggest that 4 components should be good enough to summarize the data here.

Figure 4. 10 Scree Plot



Following are the PCA outputs such as Component Matrix, Rotated Component Matrix and Total Variance Explained.

Table 4. 24 PCA Component Matrix

Variables	Component 1	Component 2	Component 3	Component 4
TRU1	-0.063	0.015	0.145	0.062
TRU2	0.663	0.235	-0.136	0.085
TRU3	0.022	0.202	0.404	0.035
TRU4	0.642	0.198	0.255	0.216
TRU5	0.687	0.269	-0.067	0.104
TRU6	0.058	0.182	-0.129	0.311
TRU7	0.706	-0.116	-0.153	0.176
PER1	0.638	0.059	0.047	0.121
PER2	0.712	0.193	-0.154	-0.008
PER3	0.520	0.358	-0.297	-0.059
PER4	0.488	0.198	-0.085	0.193
PER5	0.333	0.242	-0.305	0.398
FUL1	0.801	-0.203	0.093	-0.088
FUL2	0.760	-0.261	0.265	-0.077
FUL3	-0.396	0.040	0.017	0.370
FUL4	-0.408	0.022	0.011	0.365
FUL5	0.727	-0.359	0.222	-0.107

FUL6	0.633	0.209	-0.006	0.165
FUL7	0.744	-0.275	0.216	-0.133
ASU1	0.741	0.300	-0.023	0.003
ASU2	0.792	-0.117	0.145	-0.072
ASU3	0.831	-0.072	0.170	-0.044
ASU4	0.822	-0.180	0.118	-0.068
ASU5	0.814	-0.235	0.049	-0.033
ASU6	0.706	-0.084	-0.054	0.087
REM3	-0.319	0.502	0.412	0.096
REM4	-0.175	0.484	0.481	0.234
REM5	-0.214	0.069	0.484	0.348
REM6	0.449	-0.248	-0.164	0.248
REM7	0.521	-0.482	0.224	0.172
REM8	0.092	0.057	-0.262	0.389
SP Score	0.848	-0.066	0.071	0.249

Rotated Component Matrix

Table 4. 25 PCA Rotated Component Matrix

Variables	Component 1	Component 2	Component 3	Component 4
TRU1	-0.043	-0.098	0.104	-0.020
TRU2	0.590	0.614	0.192	0.424

TRU3	0.041	-0.001	0.417	-0.052
TRU4	0.633	0.420	0.431	0.374
TRU5	0.617	0.623	0.268	0.433
TRU6	0.019	0.092	0.108	0.370
TRU7	0.695	0.419	-0.059	0.425
PER1	0.622	0.428	0.180	0.331
PER2	0.639	0.657	0.141	0.361
PER3	0.403	0.676	0.138	0.346
PER4	0.437	0.422	0.189	0.420
PER5	0.256	0.345	0.091	0.621
FUL1	0.826	0.440	0.006	0.133
FUL2	0.819	0.322	0.069	0.050
FUL3	-0.378	-0.369	0.042	0.161
FUL4	-0.387	-0.385	0.023	0.150
FUL5	0.797	0.265	-0.040	0.002
FUL6	0.585	0.514	0.264	0.425
FUL7	0.797	0.334	0.017	0.012
ASU1	0.666	0.695	0.310	0.363
ASU2	0.809	0.462	0.105	0.148
ASU3	0.843	0.499	0.163	0.188

ASU4	0.846	0.454	0.046	0.155
ASU5	0.840	0.427	-0.035	0.190
ASU6	0.699	0.434	0.014	0.326
REM3	-0.341	-0.086	0.606	-0.049
REM4	-0.183	-0.059	0.678	0.087
REM5	-0.144	-0.360	0.384	0.051
REM6	0.469	0.145	-0.189	0.358
REM7	0.628	-0.034	-0.116	0.120
REM8	0.059	0.059	-0.054	0.460
SP Score	0.857	0.457	0.151	0.470

Figure 4. 11 Component Plot

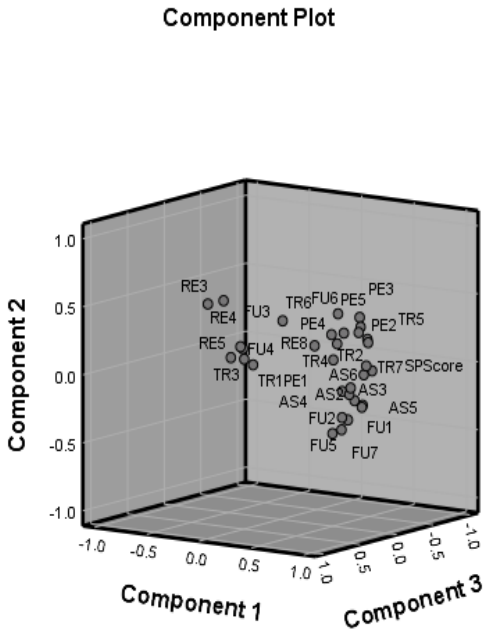


Table 4. 26 PCA Total Variance Explained

Components	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Var	Cum %	Total	% of Var	Cum %
1	11.569	36.153	36.153	11.569	36.153	36.153
2	2.239	6.998	43.151	2.239	6.998	43.151
3	1.951	6.097	49.247	1.951	6.097	49.247
4	1.553	4.853	54.100	1.553	4.853	54.100
5	1.458	4.556	58.656			
6	1.245	3.890	62.546			
7	1.176	3.674	66.220			
8	1.027	3.210	69.430			
9	0.972	3.039	72.469			
10	0.895	2.798	75.266			
11	0.773	2.415	77.682			
12	0.753	2.352	80.034			
13	0.710	2.219	82.253			
14	0.628	1.963	84.216			
15	0.612	1.914	86.130			

16	0.557	1.741	87.871			
17	0.498	1.557	89.428			
18	0.466	1.457	90.885			
19	0.376	1.175	92.060			
20	0.357	1.116	93.176			
21	0.325	1.017	94.193			
22	0.288	0.901	95.093			
23	0.271	0.846	95.939			
24	0.233	0.727	96.666			
25	0.225	0.702	97.368			
26	0.174	0.545	97.913			
27	0.155	0.486	98.398			
28	0.133	0.415	98.814			
29	0.125	0.389	99.203			
30	0.110	0.344	99.547			
31	0.082	0.256	99.802			
32	0.067	0.217	100.000			

The above table “Total Variance Explained” shows that four factors explain more than 54% of the variations of the entire explained data set. Looking at the rotated component matrix and the significant values (the value greater than 0.5, highlighted in grey) in component 1 portrays that **Assurance, Fulfillment & Trust are the three most**

important dimensions in the SP model though **Personalization & Re-modeling has some stake**.

- The independent variables such as **"Satisfaction Level with the Service Provider", "Easiness related to a Service", "Satisfaction due to Data Connectivity", "Easiness related to the activation/de-activation of Value-Added Services", "Connectivity at different location".** under **Fulfilment** dimension contribute heavily in the overall customer satisfaction score.
- The independent variables such as **"Easiness Related to Reporting Issue(s)", "Customer Care Person to understand the Issue", "Solution Capability of the Care Person", "Response time of an incident", "Satisfaction Level to a Issue Resolved"**, **"Timeliness of the Issue Resolution"** under **Assurance** dimension contribute heavily in the overall customer satisfaction score.
- The variables such as **"Comfortability with the first communication with Customer Care of the Telecom Service Provider", "Effectiveness of Service Provider communication during Infrastructure upgrade", "Billing Transparency and Clarity in Communication of the same" "Accuracy & Transparency of keeping the record"** under **Trust** plays moderate role in influencing overall satisfaction score.
- The variables such as **"Advocacy for the Telecom Service Provider"** under **Re-modelling** have moderate significance on the overall satisfaction score.
- The variable such as **"Personalized Requirement understanding", "Suggestion of offer according to the Personal Need"** under **Personalization** dimension has some significance in driving overall customer satisfaction score.

  Now the four factors have been taken in consideration as independent variables (as they can explain more 54%) from the Total Variance Explained table to do the exploratory factor analysis and use those in the regression against the dependent variable called Service Performance Score (SP Score).

  The R Square value below suggest that these 4 factors could explain 76% variations in the overall satisfaction level in the data set. The first factor is the most important one in explaining the variations of overall customer satisfaction level here, and the ANOVA shows a fair amount of fitness as the F-statistic is significant here.

Table 4. 27 Regression results of the chosen 4 factors

R	R Square	Adjusted R Square	Std. Error of the Estimate
.873[a]	0.762	0.760	0.338

Table 4. 28 Results of F Test (SP)

ANOVA					
Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1 **Regression**	217.340	4	54.335	474.964	.000[b]
Residual	67.952	594	0.114		
Total	285.292	598			

Table 4. 29 Coefficients of the chosen 4 factors in the Regression

	Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		

(Constant)	3.162	0.014		228.801	0.000
REGR factor score 1 for analysis 1	0.596	0.014	0.862	43.065	0.000
REGR factor score 2 for analysis 1	0.078	0.014	0.113	5.647	0.000
REGR factor score 3 for analysis 1	0.042	0.014	0.060	3.008	0.003
REGR factor score 4 for analysis 1	0.029	0.014	0.042	2.077	0.038

4.2 Hypothesis Validation:

Under Hypothesis formed section the first hypothesis is the "Hypothesis on Gender between Service Quality Dimensions & Customer Experience", is to be validated for the variations of overall satisfaction score against the variable gender and the 6 (six) dimensions of **ATPFAR** scale of concern. The independent t-test results shown below is the validation of that. The Levane's Test for Equality of variances shows significance as the **p-value is smaller than 0.05 at 95% CI**. Therefore, it can be derived from the value that the SQ score representing the overall satisfaction score has gender biasness i.e., there is significant effect of overall customer satisfaction by gender, thus the **alternate hypothesis ($H1_1$), is accepted** in this case.

Table 4. 30 Independent t test for SQ

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
SQ Score	Equal variances assumed	1.294	0.256	-5.454	597	0.000
	Equal variances not assumed			-6.107	246.485	0.000

Under Hypothesis formed section the second hypothesis is the "Hypothesis on Gender between Service Performance Dimensions & Customer Experience", is to be validated for the variations of overall satisfaction score against the variable gender and the 5 (five) dimensions of **TPFAR** scale of concern. The independent t-test results shown below is the validation of that. The Levene's Test for Equality of variances shows significance as the **p-value is less than 0.05 at 95% CI**. Therefore, it can be derived from the value that the SP score representing the overall satisfaction score has gender biasness i.e. there is significant effect of overall customer satisfaction by gender, thus the alternate hypothesis ($H2_1$), is accepted in this case.

Table 4. 31 Independent t test for SP

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)

SP Score	Equal variances assumed	0.153	0.695	-5.581	597	0.000
	Equal variances not assumed			-6.451	261.461	0.000

Under Hypothesis formed section the third hypothesis is the "Hypothesis on Age Groups between Service Quality Dimensions & Customer Experience", is to be validated for the variations of overall customer score alongside with the variable gender and the 6 (six) dimensions of ATPFAR scale of concern. **ANOVA** test has been taken out to corroborate the validity of the hypothesis. The p-value of the F-statistics is smaller than 0.05 at 95% CI and hence, in this case the Null Hypothesis (H30) can be rejected. Now from the analysis it can be safely concluded that, there is a **significant effect** on the overall customer satisfaction between the different Age Groups. Please refer the below table which depicts the **ANOVA results**.

Table 4. 32 ANOVA test for SQ

ANOVA					
SQ Score					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	22.822	4	5.705	14.944	0.000
Within Groups	226.788	594	0.382		
Total	249.609	598			

Under Hypothesis formed section the fourth hypothesis is the "Hypothesis on Age Groups between Service Performance Dimensions & Customer Experience", is to be validated for the variations of overall satisfaction score against the variable gender and the 5 (five) dimensions of TPFAR scale of concern. ANOVA test has been carried out to check the validity of the hypothesis. The p-value of the F-statistic is **smaller** than 0.05 at

95% CI and hence, in this case the Null hypothesis (H40) can be rejected.

Now from the result it can be concluded that, there is **significant effect** on the overall customer satisfaction amongst the different Age Groups. Below table shows the **ANOVA results**.

Table 4. 33 ANOVA test for SP

ANOVA					
SP Score					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	27.125	4	6.781	15.602	0.000
Within Groups	258.167	594	0.435		
Total	285.292	598			

Under Hypothesis formed section the fifth hypothesis is the "Hypothesis on Relation between Service Quality Dimensions & Customer Experience", is to be validated by the Pearson Correlation, which has been calculated at **1% level of significance** for all the 6 (six) dimensions of the new scale. The result shows that all those dimensions are having correlations with the overall customer satisfaction score, **hence the null hypothesis ($H5_0$) can safely be rejected**.

Table 4. 34 Co-relation test for SQ

Dimensions	**SQ Score**	**Sig. (2-tailed)**	**N**
AWA	.432**	0.000	599
TRU	.570**	0.000	599
PER	.683**	0.000	599
FUL	.679**	0.000	599
ASU	.844**	0.000	599

REM	.173**	0.000	599

However, to do further deep dive to find out the proper co-relation between the 37 variables under the 6 (six) dimensions further tests has been carried out on the variables which is the below:

Table 4. 35 Variable Co-relation test for SQ

Correlations - SQ				
		SQ Score	Sig. (2-tailed)	N
AWA1	Pearson Correlation	.082*	0.046	599
AWA2	Pearson Correlation	.356**	0.000	599
AWA3	Pearson Correlation	.289**	0.000	599
AWA4	Pearson Correlation	.235**	0.000	599
AWA5	Pearson Correlation	.243**	0.000	599
AWA6	Pearson Correlation	.470**	0.000	599
TRU1	Pearson Correlation	0.033	0.417	599
TRU2	Pearson Correlation	.557**	0.000	599
TRU3	Pearson Correlation	-0.013	0.746	599
TRU4	Pearson Correlation	.533**	0.000	599
TRU5	Pearson Correlation	.590**	0.000	599
TRU6	Pearson Correlation	.119**	0.004	599
TRU7	Pearson Correlation	.547**	0.000	599
PER1	Pearson Correlation	.528**	0.000	599
PER2	Pearson Correlation	.659**	0.000	599
PER3	Pearson Correlation	.458**	0.000	599
PER4	Pearson Correlation	.436**	0.000	599
PER5	Pearson Correlation	.290**	0.000	599
FUL1	Pearson Correlation	.719**	0.000	599

FUL2	Pearson Correlation	.666**	0.000	599
FUL3	Pearson Correlation	-.251**	0.000	599
FUL4	Pearson Correlation	-.206**	0.000	599
FUL5	Pearson Correlation	.585**	0.000	599
FUL6	Pearson Correlation	.543**	0.000	599
FUL7	Pearson Correlation	.666**	0.000	599
ASU1	Pearson Correlation	.653**	0.000	599
ASU2	Pearson Correlation	.728**	0.000	599
ASU3	Pearson Correlation	.728**	0.000	599
ASU4	Pearson Correlation	.742**	0.000	599
ASU5	Pearson Correlation	.728**	0.000	599
ASU6	Pearson Correlation	.625**	0.000	599
REM3	Pearson Correlation	-.232**	0.000	599
REM4	Pearson Correlation	-0.035	0.393	599
REM5	Pearson Correlation	-.143**	0.000	599
REM6	Pearson Correlation	.392**	0.000	599
REM7	Pearson Correlation	.458**	0.000	599
REM8	Pearson Correlation	.116**	0.004	599
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

The above table shows except **three variables (TRU1, TRU3, REM4)**, all are significant for the customer satisfaction for service quality.

Under Hypothesis formed section the sixth hypothesis is the "Hypothesis on Relation between Service Quality Dimensions & Customer Experience", is to be validated by the Pearson Correlation, which has been calculated at **1% level of significance** for all the 5 (five) dimensions of the new scale. The result shows that all those dimensions are having correlations with the overall customer satisfaction score, **hence the null hypothesis ($H6_0$) can safely be rejected**.

Table 4. 36 Co-relation test for SP

Dimensions	SP Score	Sig. (2-tailed)	N
TRU	.657**	0.000	599
PER	.628**	0.000	599
FUL	.729**	0.000	599
ASU	.843**	0.000	599
REM	.162**	0.000	599

However, to do further deep dive to find out the proper co-relation between the 31 variables under the 5 (five) dimensions further tests has been taken out on the variables which is shown below:

Table 4. 37 Variable Co-relation test for SP

Correlations - SP				
		SP Score	Sig. (2-tailed)	N
TRU1	Pearson Correlation	0.062	0.131	599
TRU2	Pearson Correlation	.544**	0.000	599
TRU3	Pearson Correlation	0.004	0.928	599
TRU4	Pearson Correlation	.568**	0.000	599
TRU5	Pearson Correlation	.587**	0.000	599
TRU6	Pearson Correlation	.200**	0.000	599
TRU7	Pearson Correlation	.609**	0.000	599
PER1	Pearson Correlation	.519**	0.000	599
PER2	Pearson Correlation	.597**	0.000	599
PER3	Pearson Correlation	.392**	0.000	599
PER4	Pearson Correlation	.431**	0.000	599
PER5	Pearson Correlation	.306**	0.000	599

FUL1	Pearson Correlation	.699**	0.000	599
FUL2	Pearson Correlation	.661**	0.000	599
FUL3	Pearson Correlation	-.213**	0.000	599
FUL4	Pearson Correlation	-.184**	0.000	599
FUL5	Pearson Correlation	.586**	0.000	599
FUL6	Pearson Correlation	.548**	0.000	599
FUL7	Pearson Correlation	.645**	0.000	599
ASU1	Pearson Correlation	.601**	0.000	599
ASU2	Pearson Correlation	.716**	0.000	599
ASU3	Pearson Correlation	.724**	0.000	599
ASU4	Pearson Correlation	.744**	0.000	599
ASU5	Pearson Correlation	.701**	0.000	599
ASU6	Pearson Correlation	.621**	0.000	599
REM3	Pearson Correlation	-.236**	0.000	599
REM4	Pearson Correlation	-0.059	0.146	599
REM5	Pearson Correlation	-.135**	0.001	599
REM6	Pearson Correlation	.355**	0.000	599
REM7	Pearson Correlation	.478**	0.000	599
REM8	Pearson Correlation	.149**	0.004	599
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

The above table shows except **three variables (TRU1, TRU3, REM4),** all are significant for the customer satisfaction for service performance, which is the **case** for service quality **as well.**

4.3 Customer Model Validation:

Regression for the Customer Models for Customer Experience for Service Quality:

Finally, MLR (Multiple Linear Regression) has been carried out to determine the effect of the six (6) dimensions such as Awareness, Trust, Personalization, Fulfilment, Assurance and Re-Modelling alongside with the different models assumed viz., Consumption, Engaged, Satisfaction & Advocacy respectively. Here, I have used some

specific combinations of independent variables to create the weighted average scores of each of these defined models to use those as dependent variables to perform the regression analysis against the required weighted average scores namely AWA Score, TRU Score, PER Score, FUL Score, ASU Score and REM Score as independent variables. The said AWA Score, TRU Score, PER Score, FUL Score, ASU Score and REM Score are calculated using all independent variables under each of these 6 (six) dimensions. Following are the results depicted:

Model 1 – Consumption:

Table 4. 38 Results of Multiple Linear Regression of 6 Dimensions (SQ)

R	R Square	Adjusted R Square	Std. Error of Estimate	R Square Change
.869[a]	0.755	0.752	0.325	0.755

From the above table it can be inferred that **75.2%** of the overall customer satisfaction is dependent upon the 6 Service Quality dimensions.

The F test below contains the null hypothesis shows how the model explains the zero variance in the dependent variable. ANOVA test results seem to be satisfactory (p-values are much smaller than 0.01 at 99% CI) and Adjusted R square value signifies that more than 75% variations of the overall satisfaction scores related to customer can be explained by these six (6) dimensions.

Table 4. 39 Results of F Test (SQ)

ANOVA					
Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1 **Regression**	192.712	6	32.119	303.659	.000[b]

Residual	62.617	592	0.106		
Total	255.329	598			

The table below is depicting the co-efficient of 6 dimensions of the SQ model. From the value it is clear that all 6 dimensions are significant.

Table 4. 40 Coefficients of 6 dimensions

	Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	0.021	0.093		0.221	0.825
Awareness	0.129	0.018	0.170	7.309	0.000
Trust	0.298	0.023	0.327	13.226	0.000
Personalization	0.248	0.018	0.383	14.026	0.000
Fulfilment	0.196	0.026	0.203	7.603	0.000
Assurance	0.040	0.021	0.061	1.930	0.054
Re-modelling	0.076	0.018	0.088	4.242	0.000

All dimensions **other than Assurance** are significantly contributing to overall customer satisfaction when Consume model is used.

Model 2 – Engaged:

Table 4. 41 Results of Multiple Linear Regression of 6 Dimensions (SQ)

R	R Square	Adjusted R Square	Std. Error of Estimate	R Square Change
.894[a]	0.799	0.797	0.310	0.799

From the above table it can be inferred that **79.7%** of the overall customer satisfaction is dependent upon the 6 Service Quality dimensions.

The F test below contains the null hypothesis shows how the model explains the zero variance in the dependent variable. ANOVA results seem to be satisfactory (p-values are well below 0.01 at 99% CI) and Multiple values imply that more than 79% variations of the overall customer satisfaction scores are explained by these 6 (six) dimensions.

Table 4. 42 Results of F Test (SQ)

ANOVA					
Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1 **Regression**	226.543	6	37.757	391.942	.000[b]
Residual	57.030	592	0.096		
Total	283.573	598			

The table below is depicting the co-efficient of 6 dimensions of the SQ model. From the value it is clear that all 6 dimensions are significant.

Table 4. 43 Coefficients of 6 dimensions

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	**Std. Error**	**Beta**		
(Constant)	-0.539	0.089		-6.056	0.000
Awareness	0.216	0.017	0.271	12.844	0.000
Trust	0.239	0.021	0.249	11.123	0.000
Personalization	0.185	0.017	0.271	10.965	0.000
Fulfilment	0.145	0.025	0.142	5.879	0.000
Assurance	0.131	0.020	0.189	6.537	0.000
Re-modelling	0.225	0.017	0.247	13.103	0.000

The above result shows that all these dimensions are contributing significantly to the overall satisfaction of customer when Engaged model is used.

Model 3 – Satisfaction:

Table 4. 44 Results of Multiple Linear Regression of 6 Dimensions (SQ)

R	R Square	Adjusted R Square	Std. Error of Estimate	R Square Change
.908[a]	0.824	0.822	0.322	0.824

From the above table it can be inferred that **82.2%** of the overall customer satisfaction is dependent upon the 6 Service Quality dimensions.

The F test below contains the null hypothesis shows how the model explains the zero variance in the dependent variable. ANOVA results seem to be satisfactory (p-values are well below 0.01 at 99% CI) and Multiple values imply that more than 82% variations of the overall customer satisfaction scores are explained by these 6 (six) dimensions.

Table 4. 45 Results of F Test (SQ)

ANOVA					
Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1 **Regression**	287.426	6	47.904	462.693	.000[b]
Residual	61.292	592	0.104		
Total	348.718	598			

The table below is depicting the co-efficient of 6 dimensions of the SQ model. From the value it is clear that all 6 dimensions are significant.

Table 4. 46 Coefficients of 6 dimensions

	Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	-0.079	0.092		-0.856	0.393
Awareness	0.114	0.017	0.129	6.566	0.000
Trust	0.211	0.022	0.198	9.466	0.000

Personalization	0.298	0.018	0.393	17.001	0.000
Fulfilment	0.092	0.025	0.081	3.589	0.000
Assurance	0.266	0.021	0.346	12.836	0.000
Re-modelling	0.039	0.018	0.039	2.215	0.027

All dimensions **other than Re-modelling** are significantly contributing to overall customer satisfaction when Satisfaction model is used.

Model 4 – Advocacy:

Table 4. 47 Results of Multiple Linear Regression of 6 Dimensions (SQ)

R	R Square	Adjusted R Square	Std. Error of Estimate	R Square Change
.877[a]	0.769	0.767	0.327	0.769

From the above table it can be inferred that **76.7%** of the overall customer satisfaction is dependent upon the 6 Service Quality dimensions.

The F test below contains the null hypothesis shows how the model explains the zero variance in the dependent variable. ANOVA results seem to be satisfactory (p-values are well below 0.01 at 99% CI) and Multiple values imply that more than 76% variations of the overall customer satisfaction scores are explained by these 6 (six) dimensions.

Table 4. 48 Results of F Test (SQ)

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	**Regression**	211.328	6	35.221	329.069	.000[b]
	Residual	63.364	592	0.107		
	Total	274.691	598			

The table below is depicting the co-efficient of 6 dimensions of the SQ model. From the value it is clear that all 6 dimensions are significant.

Table 4. 49 Coefficients of 6 dimensions

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	**Std. Error**	**Beta**		
(Constant)	-0.097	0.094		-1.030	0.303
Awareness	0.063	0.018	0.080	3.539	0.000
Trust	0.230	0.023	0.243	10.145	0.000
Personalization	0.193	0.018	0.287	10.848	0.000
Fulfilment	0.047	0.026	0.047	1.814	0.070
Assurance	0.246	0.021	0.360	11.664	0.000
Re-modelling	0.226	0.018	0.252	12.469	0.000

The above table values depict that all the dimensions **other than Fulfilment** are contributing significantly to the overall satisfaction of customer when Advocacy model is used.

Regression for the Models for Customer Experience for Service Performance:

Finally, Multiple Linear Regression is used to find the overall effect of Trust, Personalization, Fulfilment, Assurance and Re-Modelling w.r.t Consume, Advocacy, Engaged, Satisfaction respectively. I have used the distinctive combinations of independent variables to determine the weighted average scores of each of the models and finally use those as dependent variables viz Consume, Engaged, Satisfaction and Advocacy. For each of the models we have used multiple regression w.r.t independent variables Trust, Personalization, Fulfilment, Assurance, Re-Modelling The results are summarized below in the tabular format. R studio has been used for getting this result.

Model 1 – Consumption:

Table 4. 50 Results of Multiple Linear Regression of 5 Dimensions (SP)

R	R Square	Adjusted R Square	Std. Error of Estimate	R Square Change
.856[a]	0.733	0.730	0.339	0.733

From the above table it can be inferred that **73%** of the overall customer satisfaction is dependent upon the 5 Service Quality dimensions.

The F test below contains the null hypothesis shows how the model explains the zero variance in the dependent variable. ANOVA results seem to be satisfactory (p-values are much lower than 0.01 at 99% CI) and Multiple values imply that around 73% variations of the overall satisfaction scores of customers can be explained by these five (5) dimensions.

Table 4. 51 Results of F Test (SP)

ANOVA					
Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1 **Regression**	187.061	5	37.412	324.974	.000[b]
Residual	68.268	593	0.115		
Total	255.329	598			

The table below is depicting the co-efficient of 5 dimensions of the SP model. From the value it is clear that all 5 dimensions are significant.

Table 4. 52 Coefficients of 5 dimensions

	Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	0.272	0.090		3.010	0.003
Trust	0.313	0.023	0.344	13.402	0.000
Personalization	0.285	0.018	0.440	16.076	0.000
Fulfilment	0.165	0.027	0.171	6.227	0.000
Assurance	0.065	0.022	0.099	3.014	0.003
Re-modelling	0.087	0.019	0.101	4.650	0.000

From the above table values it is clear that all the dimensions are contributing significantly to the overall satisfaction of the customer when Consume model is used.

Model 2 – Engaged:

Table 4. 53 Results of Multiple Linear Regression of 5 Dimensions (SP)

R	R Square	Adjusted R Square	Std. Error of Estimate	R Square Change
.862[a]	0.743	0.741	0.351	0.743

From the above table it can be inferred that **74.1%** of the overall customer satisfaction is dependent upon the 5 Service Performance dimensions.

The F test below contains the null hypothesis shows how the model explains the zero variance in the dependent variable. ANOVA results seem to be satisfactory (p-values are well below 0.01 at 99% CI) and Multiple values imply that more than 74% variations of the overall customer satisfaction scores are explained by these 5 (five) dimensions.

Table 4. 54 Results of F Test (SP)

ANOVA					
Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1 **Regression**	210.651	5	42.130	342.606	.000[b]
Residual	72.921	593	0.123		
Total	283.573	598			

The table below is depicting the co-efficient of 5 dimensions of the SP model. From the value it is clear that all 5 dimensions are significant.

Table 4. 55 Coefficients of 5 dimensions

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	**Std. Error**	**Beta**		
(Constant)	-0.117	0.093		-1.254	0.210
Trust	0.265	0.024	0.276	10.972	0.000
Personalization	0.247	0.018	0.361	13.462	0.000
Fulfilment	0.093	0.027	0.091	3.393	0.001
Assurance	0.172	0.022	0.248	7.713	0.000
Re-modelling	0.243	0.019	0.267	12.562	0.000

All dimensions are significantly contributing to overall customer satisfaction when Engaged model is used.

Model 3 – Satisfaction:

Table 4. 56 Results of Multiple Linear Regression of 5 Dimensions (SP)

R	R Square	Adjusted R Square	Std. Error of Estimate	R Square Change
.901[a]	0.811	0.810	0.333	0.811

From the above table it can be inferred that **81%** of the overall customer satisfaction is dependent upon the 5 Service Performance dimensions.

The F test below contains the null hypothesis shows how the model explains the zero variance in the dependent variable. ANOVA results seem to be satisfactory (p-values are

well below 0.01 at 99% CI) and Multiple values imply that more than 81% variations of the overall customer satisfaction scores are explained by these 5 (five) dimensions.

Table 4. 57 Results of F Test (SP)

ANOVA					
Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1 **Regression**	282.963	5	56.593	510.371	.000[b]
Residual	65.755	593	0.111		
Total	348.718	598			

The table below is depicting the co-efficient of 5 dimensions of the SP model. From the value it is clear that all 5 dimensions are significant.

Table 4. 58 Coefficients of 5 dimensions

	Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	0.145	0.089		1.629	0.104
Trust	0.225	0.023	0.211	9.792	0.000
Personalization	0.330	0.017	0.436	18.990	0.000
Fulfilment	0.064	0.026	0.057	2.465	0.014
Assurance	0.288	0.021	0.375	13.599	0.000

Re-modelling	0.049	0.018	0.048	2.664	0.008

All dimensions other than Fulfilment are contributing significantly to the overall satisfaction of customer when Satisfaction model is used.

Model 4 – Advocacy:

Table 4. 59 Results of Multiple Linear Regression of 5 Dimensions (SP)

R	R Square	Adjusted R Square	Std. Error of Estimate	R Square Change
.874[a]	0.764	0.762	0.330	0.764

From the above table it can be inferred that **76.2%** of the overall customer satisfaction is dependent upon the 5 Service Performance dimensions.

The F test below contains the null hypothesis shows how the model explains the zero variance in the dependent variable. ANOVA results seem to be satisfactory (p-values are well below 0.01 at 99% CI) and Multiple values imply that more than 76% variations of the overall customer satisfaction scores are explained by these 5 (five) dimensions.

Table 4. 60 Results of F Test (SP)

ANOVA					
Model	**Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
1 **Regression**	209.987	5	41.997	384.897	.000[b]
Residual	64.704	593	0.109		

Total	274.691	598			

The table below is depicting the co-efficient of 5 dimensions of the SP model. From the value it is clear that all 5 dimensions are significant.

Table 4. 61 Coefficients of 5 dimensions

	Unstandardized Coefficients		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std. Error**	**Beta**		
(Constant)	0.026	0.088		0.294	0.769
Trust	0.237	0.023	0.251	10.427	0.000
Personalization	0.211	0.017	0.314	12.231	0.000
Fulfilment	0.032	0.026	0.032	1.241	0.215
Assurance	0.258	0.021	0.378	12.275	0.000
Re-modelling	0.231	0.018	0.258	12.676	0.000

All dimensions other than Fulfilment are contributing significantly to the overall satisfaction of customer when Advocacy model is used.

4.4 Summary of Findings & Results:

This may be quite enthralling to know why a **new scale is developed** altogether, where we already have a scale for **SEVQUAL & SERVPERF** existing from way back in 1985 and then modified many a times. Rather it would be easier to identify the gaps of **those**

framework and carry out the experimentation on those. In the introduction, **SERVPERF & SERVQUAL** were stated as the tried and tested methods. These two were used to capture the perception of the service in the mind of customers, as these were multi-dimensional instrument tool used for research. The original five dimensions used in these tools used to assess the "**Customer Experience**", considered as end game. But the relevant question is "**Are these dimensions able enough to perfectly gauge the customer experience?"; "why we need to devise another set of dimensions & items to create a new framework?"; "Why a new set of considerations be there that can create a new realm to capture the customer experience?**". The truth is industry, as well as academic researchers in this area know the gaps, exists in customer expectation, perception, service delivery measurement basis on different industry verticals which cannot be answered by the old framework. This earlier framework has more relevance to the assessment of the finished goods or products sold to the customer but not rightly acquainted to handle the rendered services on its own or product agnostic services. By going through the different studies made, it gives enough impetus to look for an indigenous concept in gauging the customer satisfaction in respect of ever so changing definition of services evolving with the introduction of newer and complex technologies like 5G, AI/ML, Blockchain etc. The concept of products for telecom service providers are purely services offered by the communication service providers which should be properly cataloged. These customer facing services have the resource backbone to support different services offered to the customer and most of the time the deciding factor for the service perceptions. The blueprint and building blocks of telecom operations map of provided by **eTOM Frameworx developed by the consortium (of telecom service providers, telecom gear manufacturers, consulting organizations etc.) TMForum.** That frameworx provides the standard procedures, solution building blocks, architecture building blocks etc., to think of a model where focus is completely on the customer experience in telecom domain. The generic **SERVQUAL & SERVPERF** has more inclination towards the soft skills of the customer care representatives than the actual perceived quality of the delivered services. Of course, the frontline plays a significant role in many of the activities like marketing, sales, promotions etc., but in finding the gap of customer expectation and perception of services should have the utmost interest where business is ever changing, and customer

loyalty is fragile. Not only the service assurance but also the fulfillment plays very important role in decoding the customer satisfaction. Another major factor in the service parlance is creating the aisle of personalized service as it paves the way for a paradigm shift in customer delight. The angle of having artificial intelligence in the system to track the customer activities and recommending appropriate subscriptions optimizes customer share of wallet. In a nutshell, the determination of service maturity levels in the customer eye determines the futuristic plan for the organization.

The **SQ experiment** shows that all **six dimensions** and all variables underlying those dimensions are supposed to be contributing to the overall customer satisfaction score. The **SP experiment** shows that all **five dimensions** and all variables underlying those dimensions are supposed to be contributing to the overall customer satisfaction score.

Following are the different conclusions from the different data analysis by using mainly **Multiple Linear Regression (MLR)** and **Principal Component Analysis (PCA).**

The **1st regression** using all **37 independent variables under SQ** with respect to the overall customer satisfaction in Service Quality parlance produced high **R-square value of 84.8%** meaning that the **84.8% variations** in the overall customer satisfaction score can be described by these **37 independent variables**. The **top 5 contributor** variables are:

- **Customer perception on the service provided by the TSP**
- **Uninterrupted quality of call & data connectivity**
- **Personalized requirement understanding**
- **Customer communication and updates**
- **Trust level to TSP**

The **1st regression** using all **31 independent variables under SP** with respect to the overall customer satisfaction in Service Performance parlance produced high **R-square value of 81.6%** meaning that the **81.6% variations** in the overall customer satisfaction

score can be described by these **31 independent variables**. The **top 5 contributor** variables are:

- **Activation/de-activation of value-added services Uninterrupted quality of data connectivity**
- **Personalized requirement understanding**
- **Customer care's efficiency**
- **Uninterrupted quality of data connectivity**
- **Customer perception on the service provided by the TSP**

The **2nd regression** using all **6 (six) dimensions under SQ** with respect to the overall customer satisfaction in Service Quality parlance produced high **R-square value of 81.1%** meaning that the **81.1% variations** in the overall customer satisfaction score can be described by these **6 (six) dimensions**. The **result shows all the dimensions are significant.**

The **2nd regression** using all **5 (five) dimensions under SP** with respect to the overall customer satisfaction in Service Performance parlance produced high R-square value of **83.9%** meaning that the **83.9% variations** in the overall customer satisfaction score can be described by these **5 (five) dimensions**. The **result shows except Re-modeling all other dimensions are significant**.

Then the **PCA using all 37 variables under SQ**, it is concluded that only **four factors** explain **more than 50% variations** in the entire data set. By looking at the rotated component the conclusion is further extended that the **Assurance & Fulfillment are the two most important dimensions** in the SQ model though **Trust, Personalization & Re-modeling** has some stake. Following are the main contributors:

- The independent variables such as **"Satisfaction Level with the Service Provider", "Easiness related to a Service", "Satisfaction due to Data Connectivity", "Connectivity at different location", under Fulfilment dimension contribute heavily** in the overall customer satisfaction score**.**

- The independent variables such as **"Customer Care Person to understand the Issue", "Solution Capability of the Care Person", "Response time of an incident", "Satisfaction Level to a Issue Resolved", "Timeliness of the Issue Resolution" under Assurance dimension contribute heavily** in the overall customer satisfaction score.

Then the **PCA using all 31 variables under SP**, it is concluded that only **four factors** explain **more than 54% variations** in the entire data set. By looking at the rotated component the conclusion is further extended that the **Assurance, Fulfillment & Trust are the three most important dimensions** in the SP model though **Personalization & Re-modeling has some stake**. Following are the main contributors:

- The independent variables such as **"Satisfaction Level with the Service Provider", "Easiness related to a Service", "Satisfaction due to Data Connectivity", "Easiness related to the activation/de-activation of Value-Added Services", "Connectivity at different location". under Fulfilment dimension contribute heavily** to the overall customer satisfaction score.
- The independent variables such as **"Easiness Related to Reporting Issue(s)", "Customer Care Person to understand the Issue", "Solution Capability of the Care Person", "Response time of an incident", "Satisfaction Level to a Issue Resolved", "Timeliness of the Issue Resolution" under Assurance dimension contribute heavily** in the overall customer satisfaction score.

In the customer service model four models are defined **Consumption, Advocacy, Engaged, Satisfaction.**

- For **Consumption, Assurance is not significant for SQ but for SP all the dimensions are significant.**
- For **Advocacy, Fulfilment is not significant for SQ but Fulfilment is not significant for SP**.
- For **Engaged, all the dimensions are significant for both SQ and SP.**

- For **Satisfaction, Re-modelling is not significant for SQ, but Fulfilment is not significant for SP.**

Tests Performed, Rationale & Outcome:

Test Performed	Test Rationale	Outcome
Multiple Linear regression (MLR) – To find out relationship & significance of the dependent variable Customer satisfaction to the independent variables & dimensions defined for the **SERVQUAL (SQ)** & **SERVPERF (SP)** new scale. **SPSS** is used to produce the results**.**		
MLR for **37 SQ** variables	To measure the reliability of the set of 37 variables under 6 dimensions	It produced high **R-square value of 84.8%** meaning that the **84.8% variations** in the overall customer satisfaction score can be described by these **37 independent variables under 6 dimensions** (table 4.4)
MLR for **31 SP** variables	To measure the reliability of the set of 31 variables under 5 dimensions	It produced high **R-square value of 81.6%** meaning that the **81.6% variations** in the overall customer satisfaction score can be described by these **31 independent variables under 5 dimensions** (table 4.7)
MLR – co-efficient of **37** independent variables for **SQ**	To find out the significance of the independent variables at 95% Confidence Interval	Variable **FUL1** has the highest significance. Some other significant variables are **AWA1, AWA2, FUL4, ASU2, ASU4.** Variables **AWA3, AWA4, TRU7, PER1, REM3, REM7** have adverse effect on the overall customer satisfaction score due to negative co-efficient (table 4.6)
MLR – co-efficient of **31** independent variables for **SP**	To find out the significance of the independent variables at 95% Confidence Interval	Variable **TR6** has the highest significance. Some other significant variables are **FUL4, FUL1, FUL6, ASU4.** Variables **PER1** have adverse effect on the overall customer satisfaction score due to negative co-efficient (table 4.9)
MLR for **6 SQ** dimensions	To measure the reliability of the set of 6 dimensions	It produced high **R-square value of 81.1%** meaning that the **81.1% variations** in the overall customer satisfaction score can be described by **6 (six) dimensions** defined for SQ (table 4.10)

MLR for **5 SP** dimensions	To measure the reliability of the set of 5 dimensions	It produced high R-square value of **83.9%** meaning that the **83.9% variations** in the overall customer satisfaction score can be described by these **5 (five) dimensions** defined for SP (table 4.13)
MLR – co-efficient of **6 dimensions** for **SQ**	To find out the significance of the **6** dimensions	All **6** dimensions are **significant** (table 4.12)
MLR – co-efficient of **5 dimensions** for **SQ**	To find out the significance of the **5** dimensions	Except **Re-modelling** all other **4** dimensions are significant (table 4.15)

Test Performed	**Test Rationale**	**Outcome**
Principal Component Analysis (PCA) – To ratify the finding from the previous **MLR** applied on all **6** SP dimensions and **37** attributes underneath and **5** SP dimensions and **31** attributes underneath. **SPSS** is used to produce the results**.**		
PCA - KMO and Bartlett's Test for **SQ**	To measure the effectiveness of the factor analysis for the survey feedback data	The "Kaiser-Meyer-Olkin" statistics value of **0.824** suggests that the factor analysis is good to use for the survey feedback data. In case of Bartlett's Test, the **p value 0.0000** implies the need of factor analysis is justified (table 4.16)
PCA - KMO and Bartlett's Test for **SP**	To measure the effectiveness of the factor analysis for the survey feedback data	The "Kaiser-Meyer-Olkin" statistics value of **0.830** suggests that the factor analysis is good to use for the survey feedback data. In case of Bartlett's Test, the **p value 0.0000** implies the need of factor analysis is justified (table 4.23)
PCA – Scree Plot, Component Matrix, Rotated Component Matrix, Total	Total variance of the data set and how factorization can be possible.	Total variation in the dataset is explained by each of the components. It also helps to identify how many of the components are needed to summarize the data. The tests suggest that **4 components** could be good enough to explain more than **50%** of the variations of the entire

Variance Explained for SQ		explained data set. (Figure 4.8, table 4.17, 4.18, 4.19)
PCA – Scree Plot, Component Matrix, Rotated Component Matrix, Total Variance Explained for **SP**	Total variance of the data set and how factorization can be possible.	Total variation in the dataset is explained by each of the components. It also helps to identify how many of the components are needed to summarize the data. The tests suggest that **4 components** could be good enough to explain more than **54%** of the variations of the entire explained data set. (Figure 4.10, table 4.24, 4.25, 4.26)

Test Performed	**Test Rationale**	**Outcome**
Independent t test for **SQ**	**Hypothesis 1 Validation** - to find out whether g**ender** biasness has effect on customer satisfaction for **SQ**	Levane's Test for Equality of variances shows significance as the **p-value is smaller than 0.05 at 95% CI**. Therefore, it can be derived that the **SQ** score representing the overall satisfaction score has **gender biasness** (table 4.30)
Independent t test for **SP**	**Hypothesis 1 Validation** - to find out whether g**ender** biasness has effect on customer satisfaction for **SP**	Levane's Test for Equality of variances shows significance as the **p-value is smaller than 0.05 at 95% CI**. Therefore, it can be derived that the **SP** score representing the overall satisfaction score has **gender biasness** (table 4.31)
ANNOVA test for **SQ**	**Hypothesis 2 Validation** - to find out whether **age group** has any significance on customer satisfaction for **SQ**	The p-value of the F-statistics is smaller than 0.05 at 95% CI and hence, there is a **significant effect** on the overall customer satisfaction between the different **age groups** for **SQ**. (table 4.32)
ANNOVA test for **SP**	**Hypothesis 2 Validation** - to find out whether **age group** has any significance on	The p-value of the F-statistics is smaller than 0.05 at 95% CI and hence, there is a **significant effect** on the overall customer satisfaction

	customer satisfaction for **SP**	between the different **age groups** for **SP**. (table 4.33)
Correlation test for **SQ**	**Hypothesis 3 Validation** - to find out whether there is a relation between **Dimensions** & customer satisfaction for **SQ**	Pearson Correlation, which has been calculated at **1% level of significance** for all the **6 (six)** dimensions of the new scale. The result shows that all those **dimensions** are having **correlations** with the overall **customer satisfaction score** for **SQ**. (table 4.34)
Correlation test for **SP**	**Hypothesis 3 Validation** - to find out whether there is a relation between **Dimensions** & customer satisfaction for **SP**	Pearson Correlation, which has been calculated at **1% level of significance** for all the **5 (five)** dimensions of the new scale. The result shows that all those **dimensions** are having **correlations** with the overall **customer satisfaction score** for **SP**. (table 4.36)
MLR – Model Summary, ANNOVA (F test) and **co-efficient test**	**Model Validation for SQ –** how customer satisfaction is dependent on 6 dimensions when C**onsume** model is used	**75.2%** of the overall customer satisfaction is dependent upon the 6 Service Quality dimensions when **Consume** model is used. **ANNOVA (F test)** also confirms that. The **coefficients of 6 dimensions** show other than **Assurance** all are significantly contributing to overall customer satisfaction other than Assurance (table 4.38, 4.39, 4.40).
MLR – Model Summary, ANNOVA (F test) and **co-efficient test**	**Model Validation for SP –** how customer satisfaction is dependent on 5 dimensions when **Consume** model is used	**73%** of the overall customer satisfaction is dependent upon the 5 Service Performance dimensions when **Consume** model is used**.** **ANNOVA (F test)** also confirms that**. The coefficients of 5 dimensions** show all are significantly contributing to overall customer satisfaction (table 4.50, 4.51, 4.52).
MLR – Model Summary, ANNOVA (F test) and **co-efficient test**	**Model Validation for SQ –** how customer satisfaction is dependent on 6	**79.7%** of the overall customer satisfaction is dependent upon the 6 Service Quality dimensions when the **Engaged** model is used**.** **ANNOVA (F test)** also confirms that**. The coefficients of 6 dimensions** all are significantly

	dimensions when **Engaged** model is used	contributing to overall customer satisfaction (table 4.44, 4.45, 4.46).
MLR – Model Summary, ANNOVA (F test) and **co-efficient test**	**Model Validation for SP –** how customer satisfaction is dependent on 5 dimensions when **Engaged** model is used	**74.1%** of the overall customer satisfaction is dependent upon the 5 Service Performance dimensions when the **Engaged** model is used**. ANNOVA (F test)** also confirms that**. The coefficients of 5 dimensions** show all are significantly contributing to overall customer satisfaction (table 4.56, 4.57, 4.58).
MLR – Model Summary, ANNOVA (F test) and **co-efficient test**	**Model Validation for SQ –** how customer satisfaction is dependent on 6 dimensions when **Satisfaction** model is used	**82.2%** of the overall customer satisfaction is dependent upon the 6 Service Quality dimensions when the **Satisfaction** model is used**. ANNOVA (F test)** also confirms that**. The coefficients of 6 dimensions** show other than Re-modelling all are significantly contributing to overall customer satisfaction (table 4.47. 4.48, 4.49).
MLR – Model Summary, ANNOVA (F test) and **co-efficient test**	**Model Validation for SP –** how customer satisfaction is dependent on 5 dimensions when **Satisfaction** model is used	**81%** of the overall customer satisfaction is dependent upon the 5 Service Performance dimensions when the **Satisfaction** model is used**. ANNOVA (F test)** also confirms that**. The coefficients of 5 dimensions** show all are significantly contributing to overall customer satisfaction (table 4.47. 4.48, 4.49).
MLR – Model Summary, ANNOVA (F test) and **co-efficient test**	**Model Validation for SQ –** how customer satisfaction is dependent on 6 dimensions when **Advocacy** model is used	**76.7%** of the overall customer satisfaction is dependent upon the 6 Service Quality dimensions when the **Advocacy** model is used**. ANNOVA (F test)** also confirms that**. The coefficients of 6 dimensions** show other than **Fulfilment** all are significantly contributing to overall customer satisfaction (table 4.59, 4.60, 4.61).
MLR – Model Summary,	**Model Validation for SQ –** how	**76.2%** of the overall customer satisfaction is dependent upon the 5 Service Performance

ANNOVA (F test) and **co-efficient test**	customer satisfaction is dependent on 6 dimensions when **Advocacy** model is used	dimensions when the **Advocacy** model is used**. ANNOVA (F test)** also confirms that**. The coefficients of 5 dimensions** show other than Fulfilment all are significantly contributing to overall customer satisfaction (table 4.53, 4.54, 4.55).

Hypothesis Summary (Accept/Reject):

Hypothesis 1 - Subscriber Gender: **Null Hypothesis: No difference** in the effect of overall customer satisfaction by **gender** for Service quality or Performance **Alternate Hypothesis: Significant difference** in the effect of overall customer satisfaction by **gender** for Service quality or Performance
Hypothesis 1 - Validation (Accept or Reject): Alternate Hypothesis Accepted **Gender has significant effect** between Service Quality Dimensions & Customer Experience and same is true for Service Performance Dimensions & Customer Experience [*Michael Li, "Addressing the Biases Plaguing Algorithms", HBR 2019*]
Hypothesis 2 - Subscriber Age Group: **Null Hypothesis: No difference** in the effect of overall customer satisfaction amongst different **age group** for Service quality or Performance. **Alternate Hypothesis: Significant difference** in the effect of overall customer satisfaction amongst different **age group** for Service or Performance
Hypothesis 2 - Validation (Accept or Reject): Alternate Hypothesis Accepted

Age has significant effect between Service Quality Dimensions & Customer Experience and same is true for Service Performance Dimensions & Customer Experience. [[*Daniel Julien, "Key Trends for Remote and Hybrid Customer Experience Delivery", HBR, 2021*]
Hypothesis 3 - Dimensions vs Customer Satisfaction: **Null Hypothesis: No significant relationship** between the **dimensions of Service Quality or Performance and customer satisfaction** **Alternate Hypothesis: Significant relationship** between the **dimensions of Service Quality or Performance and customer satisfaction**
Hypothesis 3 - Validation (Accept or Reject): Alternate Hypothesis Accepted **Significant relationships** [*Parasuraman et al., 1991*], between Service Quality Dimensions & Customer Experience and same is true for Service Performance Dimensions & Customer Experience. For **SQ, Awareness and Re-modelling** is slightly weaker than others whereas for **SP, Re-modelling** is slightly weaker.

Chapter 5: Recommendations:

The customer survey mechanism used the questionnaire to capture the various attributes of customer satisfaction for Service Quality & Performance. Considering, the findings from the research study along with the market scenario obtained from different literature study and aligning the recommendations with the research objectives are the following:

Research Objective 1: The 1st research objective talks about the service quality & performance parameters that are instrumental in delivering exceptional and differentiated customer experience
Recommendation 1: Customer-Centric Approach & Infrastructure Support Perception (coming out from the top 5 contributor variables defined at page no#165 & 166 **– uninterrupted quality of call & data connectivity and Activation/Deactivation of value-added services Uninterrupted quality of data connectivity)** • **Understand the need of customers:** Conduct periodic surveys and study to recognize the pain points and customer preferences [*Ashari et al., 2014*]. • **Services to be personalized:** Customize the service offerings and experiences based on individual data [*Reichheld and Rogers, 2005*]. • **Support expected to be proactive:** Anticipate the issue and aid before it arises. • **Channel support:** Multiple channel offerings for customer interaction, including phone, chat, email, social media etc. [*Hulta et al., 2019*]. • **Betterment of Infrastructure:** Infrastructure to be improved to have better service performances like speed, reliability, and coverage.
Research Objective 2: The 2nd research objective talks about the customer mindset plays in different situation how they respond to different obstacles they face finally affecting the customer journey

Recommendation 2: Seamless Customer Journeys & Prioritization of Trust & Transparency (coming out from the top 5 contributor variables defined at page no#165 **– Trust Level to TSP)**

- **Communication at level should be transparent & clear:** Usage of simple language during different methods of communication and avoid all kinds of technical jargons. Services pricing, terms & conditions etc., related communications should be very clear. Also, expectation is to get timely updates [*Slease et al, 2017*].
- **Empathizing customers:** Understand customer pains and think accordingly.
- **Self-service option can empower the customers:** Customers want to resolve various issues by themselves through online portals or apps installed [*Dixon* et al, *2017*].

Research Objective 3: The 3rd research objective talks about the development of a service delivery ecosystem (process & tool) to measure the service quality & performance which in turn helps to enhance customer experience.

Recommendation 3: Exceptional Customer Support which leads to Investment in Automation (coming out from the top 5 contributor variables defined at page no#165 & 166 **– Customer Communication & Updates and Customer care's efficiency)**

- **Process re-engineering:** Re-engineered process for the new service delivery model **[***Sarkar 1999*].
- **Be more responsive:** Answer inquiries clearly, promptly, and unambiguously.
- **Knowledge Management:** Certified customer support agents who are well-trained and very knowledgeable about products and services offered [*Britt*: *"How the Telecom Industry Can Set the Customer Experience Bar Higher"*].
- **Empathetic customer-care:** Support agents show understanding and compassion for customer issues [*Britt*: *"How the Telecom Industry Can Set the Customer Experience Bar Higher"*].
- **Omni-channel support:** Provide customer support through different channels (phone, chat, email, and social media).
- **Develop AI and automation tools:** Create AI-powered chatbots and automation to improve considerably the efficiency and customer satisfaction [*Teal, 1991*].
- **Implement automated self-service tools:** Empower customers with easy-to-use online tools for handling their accounts and troubleshooting issues by their own and automation can support them to understand the issues and sometimes can suggest offerings [*Dixon* et al*, (2017*)].

Research Objective 4: The 4th research objective talks about the usage of technology to create insights from the collected data and take automated corrective actions to improve service quality & performance

Recommendation 4: Data Analytics Capability to be formed (coming out from the top 5 contributor variables defined at page no#166 **- Personalized requirement understanding)**

- **Use the power of data:** Use data analytics from the collected customer data to gain insights into consumer behavior, service quality & performance, and operational efficiency [*Beshears and Gino, 2014*].
- **Data-Driven Decisions & Operations:** Use the data-driven insights to make informed decisions and handle to the automated operations accordingly [*Borowski, 2017*].

Research Objective 5: The 5th research objective talks about the measurement of the service quality & performance parameters that impacts the customer satisfaction score

Recommendation 5: Measure & Improve the Parameters on a Periodic basis (coming out from the top 5 contributor variables defined at page no#165 & 166 **– Customer Perception on the service provided by the TSP)**

- **Measure key metrics regularly:** Measure & monitor customer satisfaction index, net promoter score (NPS), and other metrics relevant to the organization [*Lin et al., 2011*].
- **Conduct periodic reviews to ascertain the quality:** Evaluate customer experience initiatives and wherever required, make necessary adjustments.
- **Improve service continuously:** Strive for continuous innovation and improvement.

Chapter 6: Directions for future study:

I have done this research work using a completely new framework on Service Quality & Performance assessment and validation, using different models which are the laying stones of the foundation of any future work in the Telecom domain customer satisfaction evaluation. As mentioned in the introduction section at the very beginning that this project work tries to encompass the definition of service quality evolves with the advent of newer and disruptive technologies in Telcom specifically in the area of Radio Access Network. 5G deployment has already begun in India and in many other developed countries and OTT and Mobile Apps will perhaps take a new leap of evolution to become the future and many new applications will land in as these will be the future of the media and entertainment industry. This trend got the momentum during the COVID time. This technology trend which starts with Telecom are no longer confined with the telecom area only but being used into the other verticals and traditional businesses are changing every day. The extension of this framework will surely give the baseline to jump start the Service Quality appraisal perhaps using renewed dimensions and attributes apt to the transformed version of Industry. Additional machine learning models can be explored to establish more prudent results.

Theoretical Underpinnings:

Based on this **ATPFAR** model of Service Quality & Performance in the Telecom domain, which identifies gaps between customer expectations and perceptions. The model assumes that service quality is the gap between what customers expect and what they perceive. Rooted in **disconfirmation theory**, which suggests that satisfaction is determined by comparing perceived service performance with prior expectations aligns with **perception-based theories of satisfaction** in consumer behavior. Also, rooted in the **attitude-based model**, which suggests that service quality is an antecedent to customer satisfaction.

Methodological Procedures:

Measurement through a 37-item questionnaire across six dimensions:

1. **Awareness** – Awareness of product/service, etc.
2. **Trust** – Trust related to TSP/CSP.
3. **Personalization** – Product/Services offerings personalization.
4. **Fulfilment –** Fulfilment of the service.
5. **Assurance** – Quality of the services provided. Maintenance of service level agreement etc.
6. **Remodeling** – Service modification, re-introduction etc.

End of the day customers rate two sets of statements:

Expectations: What they expect from an ideal service provider.

Perceptions: Their actual experience with the service provider.

Ultimately Customer Satisfaction = Expectation - Perception (what they think they are getting against the price they are paying)

Analyzed using **factor analysis, gap analysis, and regression analysis.**

Application:

Aspect	**Model (ATPFAR)**
Basis	Gap between Expectation & Perception
Theoretical Foundation	SERVQUAL & SERVPERF and Telecom Scenarios
Dimensions	6 (ATPFAR)
Methodology	37 items defined under 6 parameters
Best Used When	Service quality & performance in line with customer centricity

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