TELECOM LICENSING FRAMEWORK IN INDIA : A CRITICAL ANALYSIS

A Dissertation Submitted to the Panjab University, Chandigarh for the Award of Master of Philosophy in Social Sciences, in Partial Fulfilment of the Requirement for the Advance Professional Programme in Public Administration (APPPA)

BY

Ms Kalpana Singh

(Roll No 4727)

UNDER THE GUIDENCE OF

Dr Sapna Chadah

Indian Institute of Public Administration

47th Advance Professional Programme in Public Administration

(2021 – 22)

Indian Institute of Public Administration

I.P. Estate, Ring Road, New Delhi

CERTIFICATE

I have the pleasure to certify that **Ms Kalpana Singh** has pursued her research work and prepared the present dissertation titled 'TELECOM LICENSING FRAMEWORK IN INDIA: A CRITICAL ANALYSIS' under my guidance and supervision. The same is result of research done by her and to the best of my knowledge; no part of the same has been part of any monograph, dissertation or book earlier. This is being submitted to the Panjab University, Chandigarh, for the purpose of Master of Philosophy in Social Sciences in partial fulfillment of the requirement for the Advanced Professional Programme in Public Administration (APPPA) of Indian Institute of Public Administration (IIPA), New Delhi.

I recommend that the dissertation of **Ms Kalpana Singh** is worthy of consideration for the award of M. Phil degree of the Punjab University, Chandigarh.

Sapna Chadah

Dr. Sapna Chadah
Assistant Professor
Indian Institute of Public Administration
New Delhi - 110002

Date: March 2022
Place: New Delhi

ACKNOWLEDGMENT

I am very grateful to **GOD ALMIGHTY** for his blessings as without his grace, this study would not have been possible.

I express my sincere gratitude to my learned Guide, Dr Sapna Chadah, for her continuous guidance and support despite her busy schedule. I also would like to thank the Indian Institute of Public Administration (IIPA) for providing me with the opportunity to select this relevant topic and for all the infrastructural support and facilities in completing the research work. I also want to thank Dr Roma Debnath for teaching me the right way of doing research. . I would also like to thank Dr Suresh Mishra, Course Director alongwith Dr Shyamli Singh, course coordinator for providing me adequate time to carry out my research and creating very congenial environment for gaining knowledge as part of the curriculum. It will be apt for me to thank the APPPA office staff Shri Anil Sharma, Shri Manish Rawat , Shri Rajesh and Shri Laxman for always being there to help and support me. I would like to express my gratitude to the IIPA Library Staff (especially Ms Shakti Chauhan) who were ever smiling and always available to help me inspite of the pandemic constraints.

In the course of my research, I contacted a large number of subject experts and people who gave me their valuable advice and comments that aided me with the research, for which I am indebted to all of them. Shri S. K. Mishra, Shri Maruthi P Thangirala, Shri Manish Gupta and Shri Pradeep Shukla deserve a special metion.I would also like to thank my friends in APPPA 47 (specially Brig R S Sundaram, Ms Nagmani, Cmde Naresh Chhabra, Capt Hari Nair for the help and support in this research work.

I gratefully acknowledge the encouragement and unconditional affection of my parents Mrs Manorama Singh and Dr V.P.Singh, my husband Shri Amitabh Singh and patience and love of my children Pallavi and Gauri. Finally, a big thank you to Ms Manju, Shri Dinesh Chauhan and Shri Krishnan for the editing and formatting support in the last hours.

Date: 21 March 2022
Place: New Delhi

Ms Kalpana Singh
Roll No – 4727
Indian Institute of Public Administration
New Delhi – 110002

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LIST OF ABBREVIATIONS

3GPP	3rd Generation Partnership Project
ADSL	Asymmetric Digital Subscriber Line
AGR	Adjusted Gross Revenue
ANP	Access Network Provider
AOL	America Online
ApGR	applicable gross revenue
BNetzA	Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway
BSNL	Bharat Sanchar Nigam Limited
BT	British Telecommunications
BTS	Basic Telecom Services
C.F.R.	Code of federal Regulations
CAT	Competition Appeal Tribunal
CCA	Controller of Communications Accounts
CCI	Competition Commission of India
CDMA	Code-Division Multiple Access
CMA	Competition and Markets Authority
CMRTS	Captive Mobile Radio Trunking Service
CMSP	Cellular Mobile Service Provider
CMTS	Cable Modem Termination System
COVID	Corona Virus Disease
CPC	Customer Port Controller
CPNI	Customer Proprietary Network Information
Cr	Crore
CUG	Closed User Group
CVC	Central Vigilance Commission
DoT	Department of Telecommunications
EC	European Commission
ECN	Electronic Communications Network

ECS	Electronic Communications Service
EECC	European Electronic Communication Code
EMF	Electronic Magnetic Fields
ETSI	European Telecommunications Standard Institute
EU	European Union
EUR	Euro
FBeitrV	Frequency Usage Contribution Regulation
FCC	Federal Communications Commission
FDI	Foreign Direct Investment
FGebV	Frequency Fee Regulation
FSBeitrV	Frequency Protection Contribution Regulation
FTS	Fixed Telephone Services
FY	Financial Year
GATS	General Agreement on Trade in Services
GB	Giga Byte
GBP	British Pound Sterling (Currency of the United Kingdom)
GCs	General Conditions of entitlement
GDP	Gross Domestic Product
GMPCS	Global Mobile Personal Communication by Satellite
GoI	Government of India
GSM	Global System for Mobile Communication
ICT	Information and Communication Technology
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers
IETF	Internet Engineering Task Force
IJIRST	International Journal for Innovative Research in Science & Technology
ILD	International Long Distance
INMARSAT	International Maritime Satellite Organisation
INR	Indian National Rupees

INSATMSS	Indian National Satellite System Mobile Satellite System Reporting Service
IP	Internet Protocol
IPA	Investigatory Powers Act 2016
IPLC	Resale of International Private Leased Circuit
IPLC	International Private Leased Circuit
IPTV	Internet Protocol Television
ISO	International Organization for Standardization
ISPs	Internet Service Providers
ISSN	International Standard Serial Number
IT	Information Technology
ITAA	Information Technology (Amendment) Act
ITU	International Telecommunication Union
IUC	Interconnect Usage Charges
LF	License Fees
LNP	Local Number Portability
LPG	Liberalization, Privatization, and Globalization
LSAs	Licensed Service Areas
Mbps	Mega Byte per Second
MCLR	Marginal Cost of funds-based Lending Rate
MEF	Metro Ethernet Forum
MIIT	Ministry of Industry and Information Technology
mn	Million
MNOs	Mobile network operators
MNP	Mobile Number Portability
MOC&IT	Ministry of Communications and Information Technology
MTNL	Mahanagar Telephone Nigam Limited
NANP	North American Numbering Plan Administrator
NBTC	National Broadcasting and Telecommunications Commission
NDCP	National Digital Communication Policy
NLD	National Long Distance

NOCC	Network Operation & Control Center
NSOs	Network Service Operators
NTP	National Telecom Policy
OFC	Optical Fiber Cable
OTT	Over-the-Top
PCOs	Public Call Offices
PMRTS	Public Mobile Radio Trunk Service
PRC	People's Republic of China
PSTN	Public Switched Telephone Network
PSUs	Public Sector Undertakings
RETs	Renewable Energy Technologies
RFS	Radio Frequency Spectrum
RMB	Ren Min Bi (Chinese Currency)
RMS	Revenue Management Software
RoW	Right of Way
SACFA	Standing Advisory Committee On Frequency Application
SATRC	South Asian Telecommunications Regulator’s Council
SDOs	Service Delivery Operators
SMP	Significant Market Power
SMS	Short Message Service
StGB	German Criminal Code
SUC	Spectrum Usage Charges
TDSAT	Telecom Disputes Settlement and Appellate Tribunal
TEC	Telecom Engineering Centre
TKEMVFuAÜbertrV	TKG EMVG FuAG Transfer Regulation
TKG	German Telecommunications Act
TKTransparenzV	Telecommunications Transparency Regulation
TKÜV	Telecommunications Surveillance Regulation
TNGebV	Telecommunications Number Charges Regulation
TNotrufV	Telecommunications Emergency Call Regulation
TNV	Telecommunications Numbering Regulation

TRAI	Telecom Regulatory Authority of India
TSPs	Telecom Service Providers
U.S.C.	United States Code
UK	United Kingdom
UL	Unified License
UMS	Unified Messaging System
UP	Uttar Pradesh
US$	United States Dollar
USA	United States of America
USAC	Universal Service Administrative Corporation
USAL	Under-Serviced Area License
USF	Universal Service Fund
VATS	Value-added Telecom Services
VNO	Virtual Network Operators
VNOs	Virtual Network Operators
VoIP	Voice-Over Internet Protocol
VSAT	Very Small Aperture Terminal
VSNL	Videsh Sanchar Nigam Limited
Wi-Fi	Wireless Fidelity
WiMAX	Worldwide Interoperability for Microwave Access
WLL	Wireless Local Loop
WPC	Wireless Planning Commission
WWW	World Wide Web

TELECOM LICENSING FRAMEWORK IN INDIA: A CRITICAL ANALYSIS

CHAPTER 1 : INTRODUCTION

1.1. Background.

1.1.1. Telecom sector in India is over 170 years old. Introduction of Telecommunications in India dates back to 1851 when the first landlines were made operational by the government at a place near Kolkata. Telephone services were formally introduced in India in 1881.

1.1.2. In the early 1990s, the Indian telecom sector, which was owned and controlled by the Government, was liberalized and private sector participation was permitted through a gradual process with the issue of licenses.

- Telecom equipment manufacturing sector was deregulated.
- The Government allowed private players to provide value added services such as paging services.
- The Government introduced its de-monopolising strategy vide various telecom policies introduced in 1994 (i.e. the NTP 1994), in 1999 (i.e. the NTP 1999), in 2012 (NTP 2012) and most recently in 2018 (i.e. the NDCP 2018).

1.1.3. As stated by Bist, A. (2021), The Telecom industry in India is the second largest in the world with a subscriber base of 1.17 billion. The number of broadband -subscribers rose to 765.1 million in February 2021. The teledensity of

the rural market, which is largely untapped, has increased to 59.48% while the overall teledensity of India has reached 87.26%. India contributes highest in the Global Mobile Data Traffic per Smartphone at 14.5 GB per Smartphone per month.

1.1.4. The Telecom sector is the 3rd largest sector in terms of FDI inflows, contributing 7.1% of total FDI inflow. The sector contributes directly to 2.2 Million employments and indirectly to 1.8 Million jobs. The sector is expected to contribute 8% to India's GDP in 2022 from ~6.5% currently. Gross revenue of the telecom sector stood at Rs. 68,228 crore (US$ 9.35 billion) in the third quarter of FY21. Over the next five years, rise in mobile-phone penetration and decline in data costs will add 500 million new internet users in India, creating opportunities for new businesses.

1.1.5. The industry has witnessed exponential growth over the last few years primarily driven by affordable tariffs, wider availability, roll-out of Mobile Number Portability (MNP), expanding 3G and 4G coverage, evolving consumption patterns of subscribers and a conducive telecom eco system. Efforts are also underway to develop a foundational network for 5G technology deployment in India.

1.1.6. The country-wide lockdown due to COVID-19 unambiguously established the centrality of communications in maintaining economic activity and elevated

its growth impacts. The sector's contribution to India's GDP is estimated to have increased by 5 to 6 times during this time.

1.2. **Licensing Framework**.

1.2.1. Licensing framework has been an integral part of India's Telecommunication Law. Under the Indian Telegraph Act 1885, Section 4, the exclusive privilege of establishing, maintaining and working Telegraph is vested in the (Central) Government of India. However, by way of grant of license, this privilege can be given to others on such conditions and in consideration of such payments as the Government thinks fit. This power to issue licenses has been exercised by the Central Government by way of a contract between the Central Government as the licensor and the telecom operator as licensee. Being in the nature of the contract, the contractual elements of the licenses' are governed by the provisions of the Indian Contract Act.

1.2.2. As stated earlier, the Government had complete monopoly until the early 1990s. Pursuant to the National Telecom Policy 1994, the Government invited private sector participation in the telecom services mainly cellular mobile and fixed telephone services and started awarding licenses in consideration of license fees.Telecom was opened up for private participation with the issue of licences for radio paging and other value added services. Separate licences were awarded for each type of service. The following other services were opened up for private participation later on:

(a) Mobile Services – 1994

(b) Basic Services- 1997-98

(c) Internet Services-1998

(d) National Long Distance (NLD) -2000

(e) International Long Distance (ILD)-2002

1.2.3. For the award of Mobile, Basic and Internet licences, initially Indian territory was divided into 23 Licensed Service Areas (LSAs), now there are 22 LSAs.

1.2.4. The license fees (LF) has undergone changes over the years. In the initial years, the LF was a fixed amount, committed in advance by the licensee. However, the telecom industry found that they had given exorbitant commitments and would not be in a position to fulfill these commitments. As a result, the private telecom operators requested for a bailout package. Recognizing the concerns of the industry, the revenue share formula for assessing the LF was devised by the Government since 1999. Revenue from license fee accounts for being the largest source of non-tax revenue in the country.

1.3. **Statement of the Problem**.

During the initial period of liberalization of telecom sector, India adopted service specific licensing regime which was subsequently replaced by unified licensing regime. Under unified licensing regime, every private operator is free to provide any service using any

technology. Establishment of unified licensing regime has helped Indian telecom sector to achieve tremendous growth. However, there is again a thought process going on to unbundle the unified license in order to achieve new dimensions of growth. The present study attempts to explore the role of evolving licensing framework in the growth of the telecom sector.

1.4. **Rationale /Justification**.

1.4.1. Growth of Telecommunication sector has played an important role in the development of the Indian Economy. As stated previously, the share of telecommunication service in GDP has increased from 0.96% in 2000-01 to 6.5% in 2020-21and it is expected to increase to 8% in 2022-23.

1.4.2. The sector owes its growth to many factors. Although there have been studies to find out the role of technology, innovations, private players, institutions etc in this growth but the role of licensing framework in this journey has not been studied so far.

1.4.3. This study attempts to explore the role of evolving licensing framework in the growth of telecom sector.

1.4.4. This research also makes an attempt to examine the evolution of the licensing regime, current thought process of unbundling the license and suggest ways to bring improvement in the framework.

1.4.5. In addition, this also examines the role of various institutional bodies like DOT, TRAI, and TDSAT.

1.4.6. There is also be a comparison with a few international telecom licensing frameworks like UK , USA, Germany and China.

1.5. **Objectives**.

The study aims at critical appraisal of the Licensing Framework in Telecom Sector in India. It includes various dimensions of Indian Telecom Licensing. The objectives of this study are as follows:

(a) To examine the Indian telecom licensing framework.

(b) To analyze the strengths and weaknesses of the current licensing regime.

(c) To explore the role of evolving licensing framework in the growth of telecom sector.

(d) To study the functioning of various institutional bodies like DOT, TRAI, TDSAT in the licensing framework.

(e) To compare the Indian telecom licensing framework with a few international frameworks mainly U K, USA, Germany and China.

(f) To suggest measures for improvement in Indian telecom licensing framework.

1.6. **Research Questions**.

The idea of this study is to find answers to following broad questions:

(a) What is the licensing framework of telecom sector in India?

(b) What are the strengths and weaknesses of the current licensing regime?

(c) How has evolving licensing framework contributed in the growth of the telecom sector.

(d) What is the role of various institutional bodies like DOT, TRAI, and TDSAT in the licensing framework?

(e) How is Indian telecom licensing framework comparable with international scenario?

(f) What are the steps / measures needed for improvement in licensing framework?

1.7. **Research Strategy and Research Design**.

1.7.1. **Research Methodology**: The study is aimed to understand the various dimensions of telecom licensing framework in India. It is empirical in nature based on both primary and secondary sources. Mixed strategy is adopted.

1.7.2. **Research design** are Exploratory and descriptive.

1.8. **Methods to be Applied & Data Sources:**

1.8.1 Mixed strategy, descriptive and explorative method is used.

1.8.2. Data sources: Primary data and Secondary data from 1994 to 2021 is used.

(a) **Primary Sources** are in-depth Interviews, survey questionnaire and discussions with officers of DOT Head Quarter ,TRAI and Service providers (30 approx).

(b) **Secondary Sources** are documents/ reports/ statistics of the Ministry of Communications and IT, Telecom Regulatory Authority of India (TRAI), Judgments of Telecom Disputes Settlement and Appellate Tribunal (TDSAT), Supreme Court of India; National and International Research Journals, books on areas related to the research topic, relevant articles published in the leading newspapers.

1.9. **Tools and Techniques for Analysis**:

A critical and analytical approach has been adopted for analyzing the primary and secondary data, keeping in view its relevance, accuracy and authenticity.

1.10. **Scope / Limitations / Delimitations:**

1.10.1. **Content limit**. The scope of the study is limited to the Telecom Sector of India. It is confined to the Licensing only.

1.10.2. **Time Constraint**. The research work needs to be finished within two months hence time limit has put a constraint on the depth of the research work.

1.10.3. **Bias**. My past association with Bharat Sanchar Nigam Limited as Deputy General Manager and as Director in the Department of Telecom may lead to some personal bias towards certain initiatives and policies which may influence the findings. I have tried my best efforts to reach to an unbiased conclusion.

1.11. **Chapterisation Scheme**.

1.11.1. **Chapter 1: Introduction -** The chapter introduces the subject of the study and provides its background. It also provides the details about the research methodology used for the study.

1.11.2. **Chapter 2: Review of Literature -** This chapter analyses the various relevant studies conducted in the telecom sector till date.

1.11.3. **Chapter 3: Indian Telecom Licensing Framework - A Comprehensive Scenario**- The Chapter records the journey of License Regime over a period of time, various types of licenses, takes a stock of License Fee Calculation formula, licensing evolution from separate service licensing to unified licensing, thought process towards unbundling of the licenses, License Fee Regime evolution from Fixed License Fees to Revenue Share Regime, Adjusted Gross Revenue formula (AGR system) and applicable gross revenue (ApGR), License Fee Payment System and Collection Procedure, contribution of license fees in non-tax revenue and latest reforms etc.

1.11.4. **Chapter 4: Working of Institutional Bodies - an Overview.** This chapter provides an overview of various institutions that play an important role in the licensing framework like DOT (Department of Telecom), TRAI, TDSAT etc.

1.11.5. **Chapter 5: Telecom Licensing Framework - An International Scenario:** This chapter provides an insight into a few licensing frameworks of other countries, mainly United Kingdom, USA, Germany and China and make a comparison with the Indian system.

1.11.6. **Chapter 6 : Stakeholders' Perception and Analysis of Data:** This chapter provides an examination of the views expressed by various stakeholders.

1.11.7. **Chapter 7: Conclusions and Recommendations:** This chapter provides summing up of the narrative and way forward.

CHAPTER 2 : LITERATURE REVIEW

2.1. Aggarwal, P K (2016) focuses on the impact of technological developments like WLL technology etc on the evolution of Indian telecom regulation from service specific licensing regime to unified licensing regime. He used Exploratory strategy with Mixed design, (quantitative and qualitative both) and utilised Secondary data sources. The research gap in the paper is that the research was focused only on how technological innovations impacted the Indian telecom regulatory reforms.

2.2. Deo, A(2017) in his paper Telecom Industry in India: Evolution, Current Challenges & Future Road Map throws light on the evolution of telecom sector in India and analyzes the growth and challenges of this sector. Telecom sector holds immense opportunities across entire India. He concludes that the penetration of rural markets (72% of population staying in rural areas) will be the key growth driver. Outsourcing non-core functions such as network maintenance, IT operations and customer service, Divestment of tower assets into separate companies will enable curb costs and focus on core operations. Benefits of industry status in line with other infrastructure sectors in the country are needed to be implemented. He also suggests exploring the option of revenue sharing agreement between Internet players and telecommunication companies. He has used Descriptive design, Qualitative strategy through Secondary data collection. The research gap therein is that it is a general study focussing on the Evolution of Telecom Industry in India, its Current Challenges & Future Road Map. The regulatory and licensing aspects are not analyzed.

2.3. Kumar, Kapil et al (2017) in his paper Evolution of Telecom Sector in India says the telecom sector in India has traversed a very long path from Government Monopoly to the sector opening to the private participation. A lot of Indian business houses and foreign multinational companies participated and help India in bringing up this sector to the current state, wherein it has impacted every aspect of our lives across all States in India. The strategy of the research is Descriptive and method is Qualitative through Secondary data collection. The research gap of the paper is that the study traced the evolution & growth of the telecom sector in India making only a small reference to the licensing framework.

2.4. Sahai, S. (2020) studies the market trend in the telecom industry, how consumers behave, the market size and the opportunities in telecom industry. The writer conveys that to be successful, communications service providers must deliver positive customer experiences with rich, value-added services supported by comprehensive service quality management. The study is mixed (Qualitative & Quantitative) through Primary data collected from Customers in Lucknow, UP, & Secondary data. The scope of this study is limited to the customers' satisfaction in the telecom sector of Lucknow, UP.

2.5. Srinivasan, V. &Pannerselvam, S. (2020) in his paper 'Telecom Industry- Current Trends in India' elaborates that the Government of India has concentrated on Digital India program. It helps to connect all the sectors through the internet, prevents customer exploitation and ensures consumer affordable pricing. The study is Descriptive and

Qualitative strategy is used through Secondary data collection. The study focuses only on the current status of the industry and recent initiatives of the government especially Digital India.

2.6. National Digital Communications Policy 2018 (2018) puts forth the vision, 3 missions of connect India, propel India and secure India and 6 strategic objectives to be achieved by the year 2022. It is a policy document which makes the mention of licensing reforms too. The scope of this document is more of a telecom roadmap till next policy announcement.

2.7. Telecommunications Regulation Handbook, module 2 (2000) edited by Intven,H and Tetrault, M gives a theoretical construct of Telecommunications Licenses, their objectives, licensing processes, types, authorisations, spectrum licenses and licensing practices in general terms. The paper does not talk about licensing framework of any country.

2.8. Asawat ,V (2021) in his paper ‘consumer and telecommunication service: role of TRAI in policy making and regulations’ discusses about the functions of TRAI and lists the consumer centric provisions of the TRAI act mainly preamble, Section 11and 14. The paper does not mention the TRAI’s role in licensing.

2.9. SATRC (South Asian Telecommunications Regulator’s Council) report on ‘emerging licensing framework including exit and relicensing policy’ (2016) talks about

licensing issues in the south Asian counties like India, Afghanistan, Pakistan, Bhutan, Bangladesh, Iran, Maldives and Sri Lanka. The scope of the report is limited to the key aspects of the existing as well as emerging licensing framework in the SATRC regions and issues pertaining to the practical implementation of relicensing and exit policies in aforementioned SATRC countries.

2.10. Malisuwan, S and Milindavanij,D (2017) in ‘A Study on Telecommunications Business License Fees in various Countries’ studies the principle of telecommunications business license fee calculation adopted by regulators in various countries like Australia, Hong Kong, Ireland, Canada, Singapore, United Kingdom, United States of America, France, and the Netherlands, etc. The scope of the study is limited to the field of license fees only.

2.11. Recommendations of TRAI on ‘Ease of Doing Telecom Business’ (2017) deals with reviewing the existing processes, identifying bottlenecks, hindrances that are making it difficult to do telecom business in India, suggest mechanisms to ease the processes and make a better telecom business environment in the country by simplifying the various processes that a telecom licensee is required to go through. Licensing reform also finds a mention in the report.

2.12. Recommendations of TRAI on 'Enabling Unbundling of Different Layers through Differential Licensing' (2021) deals with the limited aspect of various recommendations towards unbundling of unified license.

2.13. Recommendations of TRAI on ‘Terms and Conditions of Unified License Access Services’(2013) deals with recommendations regarding the various issues of Unified license. The scope of the paper is limited to UL only.

2.14. Cave, M et al (2019) in the study ‘ The European Framework for Regulating Telecommunications: A 25-year Appraisal’ discusses how the European telecommunications sector has radically transformed in the past 25 years: from a group of state monopolies to a set of increasingly competitive markets and how this process has unfolded—for both fixed and mobile telecommunications—by focusing on the evolution of the regulatory framework and by drawing some parallels with the evolution of the sector in the US. Given the major strategic importance of the sector, the authors have highlighted some of the challenges that lie ahead.

2.15. Kumar, R (2017) in his study Bharat net, implementation and utilization issues writes about one of the main pillars of digital India and flagship program of the Government, earlier called National Optical Fiber Network project, various challenges in its unfolding and usage and recommends measures to sort out issues. The scope of the study is limited to Bharat net only.

2.16. After the literature review, it is evident that the Indian telecom licensing framework, its critical analysis and its role in the growth of the telecom sector has not been studied by the previous researchers.

CHAPTER 3 : INDIAN TELECOM LICENSING FRAMEWORK - A COMPREHENSIVE SCENARIO

3.1. Introduction.

3.1.1. Before examining Indian licensing framework, let us first see **what is a licence.** In simple words, licence is an official authorisation to do something.

3.1.2. Telecom licence is an authorisation to provide a telecom service. It is given by an authority under certain contractual terms and conditions. Those contractual terms and conditions define the rights of authority/licensor and obligations of the licensee. In other words, the license defines what is authorised, who is authorised, how it is to be executed and what punishments and penalties to be awarded in case of defiance.

3.1.3. The other question arises why are the Telecom licenses granted. The answer lies in liberalisation, privatisation and globalisation (LPG) started world over. In the process of LPG, monopoly of state in providing telecom services was reduced by gradually transferring them to private ownership by grant of licenses.

3.1.4. In the modern world, Licensing is one of the key constituents of the communications sector. Licensing framework takes care of telecom coverage, revenues earned by government from levies and fees and the national safety

concerns. A forward looking licensing regime is essential for the deployment of new technologies, promotion of competition between operators and encouraging investment friendly environment in the telecommunications sector.

3.2. **Indian Telecom Licensing Framework**.

3.2.1. Indian telecom licensing framework derives its legitimacy from the 19th century law Indian Telegraph Act 1885. Section 4 (1) of the Indian Telegraph Act 1885 reads as follows: "Within India, the Central Government shall have exclusive privilege of establishing, maintaining and working telegraphs provided that the Central Government may grant a license, on such conditions and in consideration of such payments as it thinks fit, to any person to establish, maintain or work a telegraph within any part of [India]."

3.2.2. Thus the exclusive privilege of establishing, maintaining and working **telegraphs** within India is vested in the Central Government. This privilege is to the exclusion of all others. However, the absolute and indivisible privilege can be parted by the Central Government by way of grant of licenses on such conditions and in considerations of such payments as it thinks fit.

3.2.3. The Telegraph Act defines the word 'telegraph' in section 3 (1AA) to mean "…….any appliances, instrument, material, or apparatus used or capable of use for transmission or reception of signs , signals, writings, images, and sounds, or intelligence of any nature by wire, visual or other electro-magnetic emissions,

radio waves or Hertzian waves, galvanic, electric, or magnetic waves." This broad definition covers most modern communication devices such as fixed telephones, cellular phones, radios, internet modems, and dish antennas. All these devices are considered to be telegraphs under the Telegraph Act.

3.2.4. The Telecom Regulatory Authority of India Act, 1997 further enlarges the legal concept of telecommunication service. The Act defines the term 'telecommunication service in Section 2(1) (k):"[a] service of any description (including electronic mail, voice mail, data services, audio tex service, video tex services, radio paging and cellular mobile telephone services) which is made available to users by means of any transmission or reception of signs, signals, writing, images and sounds or intelligence of any nature, by wire, radio, visual or other electro-magnetic means but shall not include broadcasting services."

3.2.5. The definition in the TRAI Act expands the telegraph definition by describing the types of services offered by licensees that are licensed under the Telegraph Act. These licensees receive licenses to maintain, establish and work telegraphs under the first provision to 4(1) of the Telegraph Act. Section 2(1) (e) of the TRAI Act statutorily defines those licensees as persons authorized to provide specific public telecommunication services. Therefore, when read together with the Telegraph Act 2(1) (e) and 2(1) (k) of the TRAI Act, the Telegraph Act's broad definition of telegraph is further widened to include

equipment capable of offering a whole range of modern communications not expressly mentioned in 3(1AA) of the Telegraph Act.

3.2.6. Thus, when 3 (1AA) and 4(1) of the Telegraph Act are read together with 2(1) (e) and 2(1) (k) of the TRAI Act, the government's executive privilege covers virtually all modern communication services.

3.3. **Enactments Governing Telecom Framework in India**.

There are various enactments / laws and regulations that govern the telecom industry in India. Following main enactments are applicable to telecom service companies i.e. the companies who are either requiring license/authorisation or registration from DoT:

3.3.1. **The Indian Telegraph Act, 1885**: This Act is one of the oldest legislations still in effect in India and governs the law relating to Telegraphs in India. As stated above, the Indian Telegraph Act, 1885 gives exclusive privilege to grant telecom licenses to private bodies on such conditions and in consideration of such payments as it thinks fit, to any person to establish, maintain and work a telegraph within any part of India. Some of the salient features of this Act are:

(a) It authorizes the Government of India to grant telecom licenses on such conditions and in consideration of such payments as it thinks fit, to any person to establish, maintain, work a telegraph within any part of India.

(b) It authorizes the Government of India to take possession of licensed telegraphs and to order interception of messages on the occurrence of any public emergency or in the interest of public safety.

(c) Any dispute concerning a telegraphic appliance/ apparatus/ line between the telegraph authority and a licensee shall be determined by arbitration by an arbitrator appointed by the Central Government.

3.3.2. **The Indian Wireless Telegraphy Act, 1933:** This Act was enacted to regulate the possession of wireless telegraphy apparatus. According to this Act, the possession of wireless telegraphy apparatus by any person can only be allowed in accordance with a license issued by the telecom authority. Further, the Act also levies penalties if any wireless telegraphy apparatus is held / used without a valid licence from Government of India.

3.3.2. **Telecom Regulatory Authority of India Act 1997**: This act empowered the Telecom Regulatory Authority of India (TRAI) with quasi-judicial authority to adjudicate upon and settle telecom disputes. Later in the year 2000, this Act was amended by the notification of the Telecom Regulatory Authority of India (Amendment) Act, 2000 to bring in better clarity and distinction between the regulatory and recommendatory functions of TRAI. There is clear distinction between the recommendatory powers of TRAI and the policy making powers of DoT. The DoT is the sole authority for licensing of all telecommunications services in India, it is mandatory for the DoT to have TRAI's recommendations

beforehand with regard to matters over which TRAI has recommendatory powers however DoT has the discretion to either accept or reject the recommendations of TRAI under the TRAI Act.

3.3.3. Further, the amended Act served a very important purpose in completely differentiating the judicial functions of TRAI by setting up of Telecom Dispute Settlement Appellate Tribunal (TDSAT).

3.3.4. **Information Technology Act, 2000**: Information Technology Act, 2000 and subsequently, Information Technology (Amendment) Act, 2008 (ITAA 2008) provide additional focus on information security, on offences including cyber terrorism and data protection and also provides for penalties for various offences such as cyber-crimes, various e-commerce frauds like cheating by impersonation and pornography. Though the ITAA 2008 does not directly apply to the telecom industry, but some of the amendments are directly related to the telecom sector as information technology sector and the telecom sector are closely related.

The Government also notifies various regulations from time to time, which have an impact on this sector such as the 'Anti-Spamming Regulations', which prohibit unsolicited commercial communications sent via SMS, and require all telemarketers to register under the said regulations.

3.4. **Licensing Framework – A Historical Overview**.

3.4.1. **PRE-1994**: Hardly any telecom licenses were issued to private persons in the century following the promulgation of the Indian Telegraph Act. The Government virtually exercised its privilege under the Act to the exclusion of others. Thus until the year 1994, provisioning of the telecom Services in India was the sole monopoly of the Department of Telecommunications, under the Ministry of Communications, Government of India.

On 31st March 1992, the country had 5.81 million basic telephone connections. 80% of the communication network was operated by the Department of Telecommunications (DoT) and 20% of the network was controlled by the government owned Public Sector Unit, Mahanagar Telephone Nigam Limited (MTNL) in Delhi and Mumbai.

3.4.2. **National Telecom Policy 1994**. In order to meet the growing demand for telecommunications, the Government announced the National Telecom Policy (NTP'94) in the year 1994.

(a) NTP 1994 recognized that the required resources for achieving the desirable telephone density targets would not be available only out of Government sources and concluded that private investment and involvement of the private sector was required to bridge the resource gap.

(b) The policy for the first time provided a clear road map for the privatization of telecommunication services in India. The NTP, 1994 had

amongst its objectives, the expansion of telecommunications services, universal service covering all villages, delivery of international standard services and privatization of cellular services. The policy also sought to attract foreign direct investment and stimulate domestic investment.

Pursuant to the NTP 1994, the Government invited private sector participation in Cellular Mobile Telephone Services (CMTS) and Fixed Telephone Services (FTS). After a competitive bidding process, licenses were awarded to eight CMTS operators in four metros, fourteen CMTS operators in 18 state circles, six BTS operators in six state circles and to paging operators in twenty seven cities and eighteen state circles. Most of these licenses were issued between the years 1994-1997.The licence fee was a flat amount for the first three years, and then was linked to the number of subscribers subject to a minimum amount. Subsequently, 34 CMTS licences were awarded in 18 Licence Service Areas (LSAs), two each in all LSAs through a single-stage competitive bidding process in November 1995 except West Bengal and Assam, where only one licence was awarded. No bids were received for Jammu and Kashmir and the then Andaman and Nicobar LSA. The licence had a validity of 10 years extendable by a period of 5 years at a time.

However, the result of privatization was not entirely satisfactory. Till the year 1999, only nine licenses became operational. The main reason was the fact that the actual revenues realized by the projects were far short of the projections made by the operators. The operators were unable to

arrange for finances and were not able to complete their projects. As a result private sector entry was slower than what was envisaged in the NTP, 1994.

3.4.3. **National Telecom Policy 1999**. The aforesaid concerns with privatization under the NTP 1994 led to the formulation of a new policy- NTP 1999. The NTP 1999 marked a distinct departure from the NTP, 1994 in four major aspects in relation to cellular services.

(a) **Wholesome Services:** The policy widened the kinds of services that a Cellular Mobile Service Provider (CMSP) could provide without seeking an additional license. This included mobile telephony services, all types of mobile services including voice and non-voice messages, data services etc.

(b) **Enhanced Interconnectivity**: The NTP, 1999, permitted direct interconnectivity between a CMSP and other service providers (including another CMSP), sharing of infrastructure and interconnectivity between service providers in different service areas.

(c) **Increased Competition:** The existing duopoly system of permitting only two operators in a service area was done away with, and entry of more operators was permitted in consultation with TRAI.

(d) **Revenue Sharing**:The NTP, 1999 signaled the shift from a fixed license fee system to a system of revenue sharing. Under the new policy,

the CMSP operators would be required to pay a onetime entry fee, and a license fee based on revenue share.

The earlier system permitted the private operators to anticipate and project their revenues, and then through a bidding process, awarded them licenses. The worth of the natural resource was discovered by a process where the service provider would primarily determine its worth. The NTP 1999 substantially departed from the earlier system of price discovery by enabling the actual users to determine its worth. Higher the use, higher the worth and higher the revenue earned by the State.

3.4.4. **Migration Package:** The operators who were issued licenses under the NTP, 1994 were facing serious problems. Defaults were committed by the licensees in the due payment of license fee. The arrears on account of license fees, as on 31.5.1999, amounted to Rs.2944.31 crores in respect of CMTS licenses, and Rs.783.49 crores in respect of BTS (Basic Telecom Services) licenses, aggregating to Rs.3727.80 crores. The service providers requested the Government for several reliefs like extension of effective date, moratorium on payments, reduction in amounts etc.

The Attorney General for India opined that the continuance of existing licenses under the 1994 policy, concurrently with new licensees under the 1999 policy, would create problems and therefore, a migration of existing licensees from the 1994 regime to the 1999 regime is warranted. The Licensor had both the

statutory power and contractual right to effect the necessary amendments to the terms of the existing licenses. It was further opined that the migration would be effected only if the licensees accepted all the conditions as a package, and that the percentage of revenue share under the NTP, 1999 shall be determined by the Government in consultation with the TRAI.

On 22.7.1999 the migration package was offered to all existing operators. The license fee was to be calculated as a percentage share of gross revenue. Further, it provided that gross revenue for this purpose would be the **total revenue of the licensee company,** excluding the PSTN related call charges paid to DoT/ MTNL and service tax collected on behalf of the Government from the subscribers. The definition of 'gross revenue' was unequivocal and categorical.

3.4.5. **National Telecom Policy 2012**. The Government approved National Telecom Policy-2012 (NTP-2012) on 31st May 2012 which addressed the Vision, Strategic direction and the various medium term and long term issues related to telecom sector. The primary objective of NTP-2012 was maximizing public good by making available affordable, reliable and secure telecommunication and broadband services across the entire country. The main thrust of the Policy was on the multiplier effect and transformational impact of such services on the overall economy. It recognized the role of such services in furthering the national development agenda while enhancing equity and inclusiveness. Availability of affordable and effective communications for the citizens was at the core of the

vision and goal of the NTP-2012. The Policy also recognized the predominant role of the private sector in this field and the consequent policy imperative of ensuring continued viability of service providers in a competitive environment. Pursuant to NTP-2012, these principles would guide decisions needed to strike a balance between the interests of users/ consumers, service providers and government revenue.

The objectives of the NTP-2012, inter-alia, included the following:-

(a) Provide secure, affordable and high quality telecommunication services to all citizens.

(b) Strive to create One Nation - One License across services and service areas.

(c) Achieve One Nation - Full Mobile Number Portability and work towards One Nation - Free Roaming.

(d) Increase rural tele-density from the current level of around 39 to 70 by the year 2017 and 100 by the year 2020.

(e) To recognize telecom, including broadband connectivity as a basic necessity like education and health and work towards ‘Right to Broadband’.

(f) Provide affordable and reliable broadband-on-demand by the year 2015 and to achieve 175 million broadband connections by the year 2017 and 600 million by the year 2020 at minimum 2 Mbps download speed and making available higher speeds of at least 100 Mbps on demand.

(g) Provide high speed and high quality broadband access to all village panchayats through a combination of technologies by the year 2014 and progressively to all villages and habitations by 2020.

(h) Recognize telecom as Infrastructure Sector to realize true potential of ICT for development.

(j) Address the Right of Way (RoW) issues in setting up of telecom infrastructure.

(k) Mandate an ecosystem to ensure setting up of a common platform for interconnection of various networks for providing non-exclusive and non-discriminatory access.

(l) Enhanced and continued adoption of green policy in telecom and incentivize use of renewable resources for sustainability.

(m) Achieve substantial transition to new Internet Protocol (IPv 6) in the country in a phased and time bound manner by 2020 and encourage an ecosystem for provision of a significantly large bouquet of services on IP platform.

3.4.6. **<u>One Nation- One License</u>:** National Telecom Policy - 2012 recognised that the evolution from analog to digital technology has facilitated the conversion of voice, data and video to the digital form. Increasingly, these are now being rendered through single networks bringing about a convergence in networks, services and also devices. Hence, it is essential to move towards convergence between various services, networks, platforms, technologies and overcome the

existing segregation of licensing to enhance affordability, increase access, delivery of multiple services and reduce cost.

Thus secure, reliable, affordable and high quality converged telecommunication services anytime, anywhere were envisaged for an accelerated inclusive socio-economic development. One of the objectives of the National Telecom policy-2012 was to “Strive to create One Nation - One License" across services and service areas.

The Government decided to implement this regime in two phases, in the first phase, UL regime was introduced in 2013, and in the second phase, towards the delinking of licensing for networks from the delivery of services, a new category of Unified License (Virtual Network Operator) was introduced in 2016.

Virtual Network Operators (VNOs) were permitted in India in 2016. VNOs are Service Delivery Operators (SDOs) treated as an extension of network service operators (NSOs), who do not own the underlying core network(s), i.e., VNOs are not allowed to install equipment interconnecting with the network of other NSOs. No spectrum is assigned to VNOs. Parenting with only one NSO is permitted for access services. VNOs can provide any or all telecom services, which are being provided by the existing telecom service providers. UL (VNO) is a regime parallel to UL. It offers all authorisations as available in the UL. In

addition, it offers an authorisation for the ‘Access Services Category B’ wherein the service area is a District of a State/Union Territory.

Till 2012, individual licenses were required to start a different telecom services, however with the introduction of Unified License in 2012 - a number of telecom services can be provided under single licence by taking appropriate service authorisations. However, one company can have only one Unified Licence. Under Unified Licence, there can be authorization for any one or more services. The applicant company can apply for authorization for more than one service and service area at different time. Depending upon the authorization, the scope and jurisdiction of the licence will vary.

At present, licenses for the following services are operative as specified in **Table No.1** given below:

Table No. 1: Authorizations and Service Area

Sl. No.	Service	Remark
(a)	Unified Licence	All Services
(b)	Access Service	Service Area wise
(c)	Internet Service : Category-A	All India jurisdiction
(d)	Internet Service : Category –B	Service Area wise
(e)	Internet Service : Category –C	Secondary Switching Area wise
(f)	National Long Distance (NLD)	All India jurisdiction
(g)	International Long Distance (ILD)	All India jurisdiction

(h)	Global Mobile Personal Communication by Satellite (GMPCS) Service	All India jurisdiction
(j)	Public Mobile Radio Trunk (PMRTS) Service	Service Area wise
(k)	Very Small Aperture Terminal (VSAT) Closed User Group (CUG) Service	All India jurisdiction
(l)	INSAT MSS-Reporting (MSS-R) Service	All India jurisdiction
(m)	Resale of International Private Leased Circuit (IPLC) Service	All India jurisdiction

A one-time non-refundable Entry Fee for Unified Licence for all licensed service areas is 150.00 Million. The entry fee varies as per service authorization requirements as specified in **Table No. 2** given below

Table No. 2 : Service Authorizations And Entry Fees

Service	**Entry Fee (Million INR)**
Access (Wire line / Wireless) Service (Telecom Circle / Metro Area)	10.00 (5.00 for NE & J&K)
NLD (National Area)	25.00
ILD (National Area)	25.00
VSAT (National Area)	3.00

PMRTS (Telecom circle/Metro)	0.05
GMPCS (National Area)	10.00
INSAT MSS-R (National Area)	3.00
ISP "A" (National Area)	3.00
ISP "B" (Telecom circle/Metro Area)	0.20
ISP "C" (SSA)	0.02
Resale IPLC(National Area)	10.00

3.4.7. **National Digital Communication Policy 2018**. The National Digital Communications Policy, 2018 seeks to unlock the transformative power of digital communications networks - to achieve the goal of digital empowerment and improved well being of the people of India; and towards this end, attempts to outline a set of goals, initiatives, strategies and intended policy outcomes. The National Communications Policy aims to accomplish the following Strategic Objectives by 2022:-

(a) Provisioning of Broadband for All.

(b) Creating 4 Million additional jobs in the Digital Communications sector.

(c) Enhancing the contribution of the Digital Communications sector to 8% of India's GDP from ~ 6% in 2017.

(d) Propelling India to the Top 50 Nations in the ICT Development Index of ITU from 134 in 2017.

(e) Enhancing India's contribution to Global Value Chains.

(f) Ensuring Digital Sovereignty.

This policy aims for Universal Coverage rather than revenue maximization. Improvement in regulation and ongoing structural reforms are the pillars of a sound policy initiative. Regulatory reform is not a one-off effort, but a dynamic, long-term and multidisciplinary process. The Policy recognises the importance of continued improvement in the regulatory framework for attracting investments and ensuring fair competition, to serve the needs of Indian citizens. Given the sector's capital-intensive nature, the Policy aims to attract long-term, high quality and sustainable investments. To serve this objective, the Policy further aims to pursue regulatory reforms to ensure that the regulatory structures and processes remain relevant, transparent, accountable and forward-looking. Additionally, the Policy aims to remove regulatory barriers and reduce the regulatory burden that hampers investments, innovation and consumer interest. The Policy also identifies steps to strengthen the sector's institutional mechanism and legislative framework, to ensure that India's economy and citizens can derive the full potential of its digital communications sector.

The recent past has witnessed an unprecedented transformation in the Digital Communications Infrastructure and Services sector with the emergence of new technologies, services, business models and players. There is hence an imperative need to review the existing licensing, regulatory and resource

allocation frameworks to incentivize investments and innovation to optimise new technology deployments and harness their benefits.

The policy talks about ‘Reforming the licencing and regulatory regime to catalyse Investments and Innovation, and promote Ease of Doing Business by:-

(a) Reviewing of levies and fees including LF, SUC and the definition of AGR and rationalisation of Universal Service levy.

(b) Reviewing the concept of pass through charges to align the same with the principles of input line credit thereby avoiding double incidence of levies.

(c) Reviewing the rationalization of license fees on fixed line revenues to incentivise digital communications.

(d) Enabling unbundling of different layers (e.g. infrastructure, network, services and applications layer) through differential licensing.

(e) Simplifying existing systems and procedures for grant of licenses, approvals, clearances, permissions and developing a comprehensive end-to-end online platform.

(f) Specifying timelines within which various types of licenses, permissions and clearances shall be provided by the relevant administrative offices.

(g) Improving the Terms and Conditions for ‘Other Service Providers’, including definitions, compliance requirements and restrictions on interconnectivity.

(h) Reforming the Guidelines for Mergers & Acquisitions, 2014 to enable simplification and fast tracking of approvals.

(j) Simplifying the process of obtaining Experimental Licenses and establishing regulatory sandboxes.'

3.4.8. **Telecom Reforms 2021**. Keeping in view the policy of NDCP'18, a series of reforms were announced in September 2021. Reforms which brought fundamental changes in the licensing framework are as follows:

I. **Rationalization of AGR:**

(a) AGR was previously interpreted as being based on all revenue, rather than just that associated with a company's core telecom business. The government has accepted that this interpretation was problematic, which will reduce the future financial burden on companies.

(b) Telecom companies have to pay a pre-fixed percentage of AGR (excluding non-telecom revenues) to the government as statutory levies but this will apply prospectively.

(c) **Moratorium on AGR Dues**: The earlier definition of AGR, backed by the Telecom Department and upheld by the Supreme Court in 2019, had made TSPs liable to pay Rs. 1.6 lakh crore. This payment has cash-strapped the telecom sector. In order to revive the telecom sector, a four-year moratorium on all spectrum and AGR dues has been approved.

(d) However, those TSPs opting for the moratorium will be required to pay interest on the amount availed under the benefit.

II. **Interest Rates Rationalized and Penalties Removed:**

(a) The interest which is compounded monthly on the Spectrum Usage Charges (SUC) will **now be compounded annually** and also the interest rate will be lowered, based on MCLR + 2%instead of MCLR + 4%. MCLR refers to the lowest lending rate banks are permitted to offer - the Marginal Cost of funds-based Lending Rate.

(b) Additionally, the penalty and interest on penalty stands removed from the licenses.

III. **FDI Reforms**: Foreign Direct Investment (FDI) in the sector has also been allowed up to 100% under the automatic route, from the existing limit of 49%. So far, up to 49 per cent was allowed through the automatic route and anything thereafter had to necessarily go through the government route. The latest measures are expected to ease the cash flow issues being faced by some players in the industry.

IV. Spectrum user charges have been rationalised and there will now be an annual compounding of rates, instead of monthly. Spectrum can now be surrendered as well as shared.Spectrum auction calendar will be created while tower set-up process is now simplified on the basis of self-approval.

3.4.9. **<u>Significance of these Reforms</u>: Reviving Competition and Promoting Ease of Doing Business:** Four years' Moratorium would encourage companies to invest in customer service and new technology. Together, these signal the return to an investor-friendly climate.

(a) **<u>Promoting Digital India</u>**: The telecom sector is one of the prime movers of the economy and the measures announced by the government would enable the industry to achieve the goals of Digital India. Together, these measures would pave the way for large scale investments into the sector, including for 5G technology deployment, and generate more jobs.

(b) Moratorium on AGR dues and spectrum dues would only provide temporary relief with these deferred dues to be payable eventually with interest. Thus, all the stakeholders involved should find a way to develop a sustainable tariff policy.

A glance at historical overview reflects that with every new telecom policy there has been a change in the licensing framework. Policy changes and resultant renewed licensing framework has positively changed the growth of the sector in terms of subscriber base as well as revenue of the industry and of the government.

3.5. **<u>Unbundling of Different Layers</u>**.

3.5.1. The Telecom Regulatory Authority of India (TRAI) vide Recommendations on Enabling Unbundling of Different Layers Through

Differential Licensing dated 19th August 2021 recommended the unbundling of layers of telecom services through a system of differential licensing. The recommendations aim to "catalyse Investments and Innovation and promote Ease of Doing Business". While the said recommendations have been welcomed by a cross-stakeholder, concerns were raised about the application of license fee as a percentage of the Adjusted Gross Revenue (AGR) at different levels. It is pertinent to mention here that the recommendations of the TRAI are not binding on the licensor (Department of Telecommunications (DoT)). Nevertheless they represent a significant shift in TRAI's approach to the issuance of licenses in the telecom sector and possibly attracting new service providers.

3.5.2. **Existing Regime Regarding Layers:** The service providers in the telecom sector can be broadly classified into Telecom Service Providers (TSP) and Virtual Network Operators (VNO) [also known as Service Delivery Operators (SDO)]. VNOs do not own, install or maintain the active infrastructure (infrastructure that requires operational coordination between one or more network operators). VNOs are treated as an extension of the TSPs, whose infrastructure they use to provide services to the end customer. The Unified License (UL) regime (extant since 2013) prescribed grant of a single unified license for various telecom services. The UL (VNO) was introduced in 2016 with the aim to delink the "licensing of networks from the delivery of services." Since the UL regime (of 2013) did not segregate the layers of services, the introduction

of UL(VNO) was seen as the first step towards the unbundling of layers through differential licensing.

3.5.3. **TRAI's Recommendations**. The TRAI's recommendations suggest the creation of a network layer in addition to the service layer. Consequently, an Access Network Provider (ANP) who operates at the network layer will provide services on a wholesale basis to a TSP/VNO who offers services to the end customer. The ANP will build core/active infrastructure and team up with a TSP/VNO for provision of services. The ANP is restricted from providing services directly to the end customer. For the purposes of implementation, TRAI has recommended the creation of an UL for ANPs. The recommendations inter alia propose:

(a) allowing the existing TSPs to move from the extant regime to the recommended unbundled regime;

(b) roles and responsibilities of the ANPs and

(c) to permit ANPs to acquire spectrum.

The recommendations prescribe a framework within which the ANP/TSP and VNOs must engage. This includes the ANPs/TSPs to follow a fair, transparent and non-discriminatory process in the acceptance/rejection of the proposals by the VNOs. Further, in the case of a rejection, the ANPs/TSPs must provide reasons for the same. The recommendations also require that the VNOs as well as the

Network Providers update the licensor, i.e., DoT and the regulator, i.e., TRAI, regarding the agreements they enter into.

The recommendations have, however, refrained from mandating ANPs or TSPs from providing services to VNOs and have not accepted the proposal that TRAI must regulate the prices paid by VNOs to Network Providers.

3.5.4. **Analysis**: In such a scenario, there is will be three sets of operators in the telecom industry, namely:

(a) ANP, who establishes/maintains core infrastructure and sells its services on a wholesale basis to TSPs as well as VNOs;

(b) VNO, who sells services to the customers directly (retail) by utilizing the infrastructure it needs for this from either an ANP or TSP.

(c) The TSP who establishes/maintains core infrastructure as well as sells services directly to the customer. The TSP can sell its own infrastructure to VNOs, procure infrastructure from the ANP and sell services to the end customer.

3.5.5. **Conclusion** : The recommendations are in the direction of facilitating TRAI's aim of fostering competition and bringing in new players. Not only would they encourage competition among players at different layers but also forge partnerships between players of different layers (for instance a VNO and an ANP).

There may also be a positive impact on customers if these recommendations result in more players entering the market and offering competing services. Given that the prospective operator will only provide services to customers (VNOs) or maintain infrastructure (ANP), capex is expected to be lower making entry barriers comparatively economical.

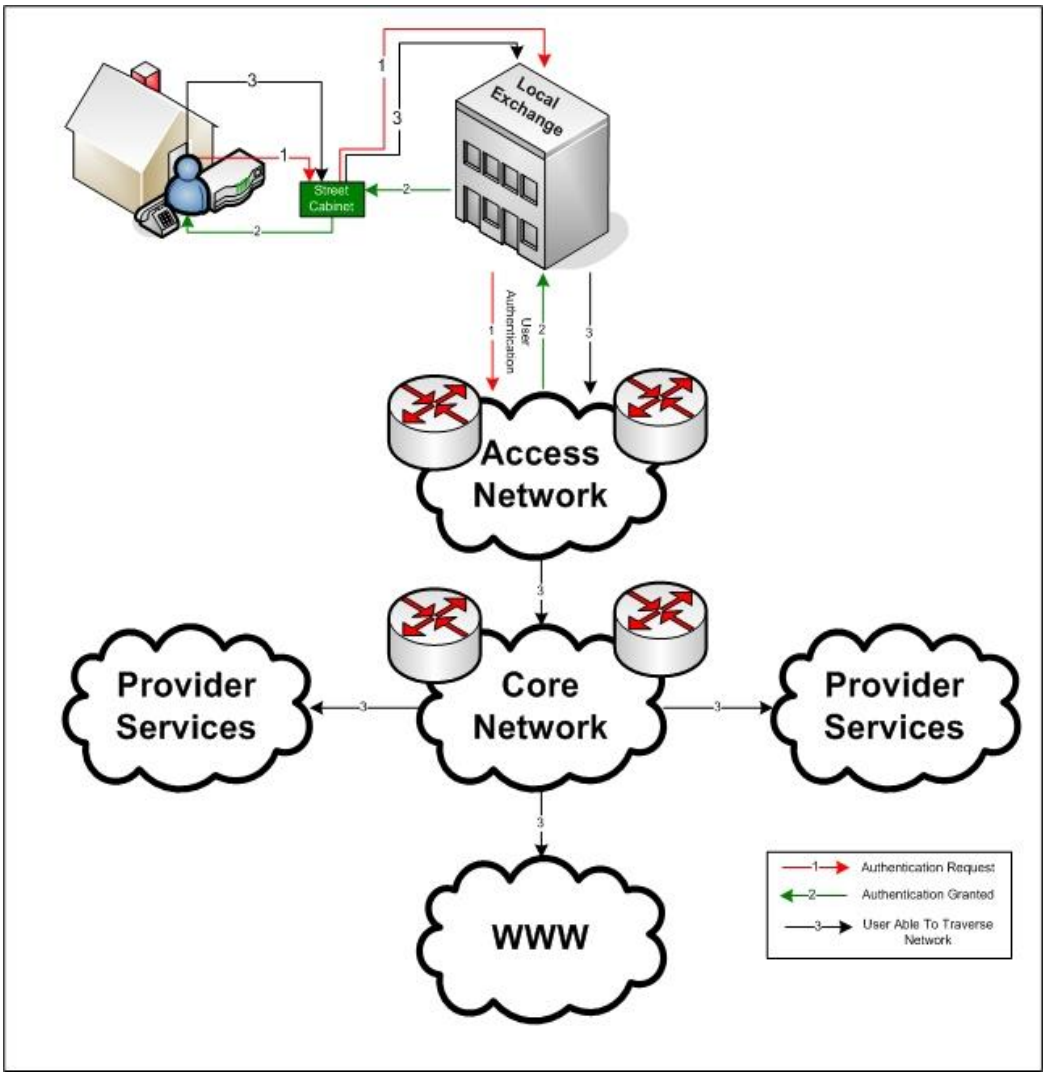
3.6. **Categories of Telecom Services and their Licenses.** Telecom services can be categorized under following groups for which the operator needs the license from the Department of Telecommunications:

(a) Access Services

(b) Carrier services

(c) Data services

3.6.1. **Access Services**. Access Service means access to a local exchange network for the purpose of enabling a provider to originate or terminate telecommunication services within the local exchange. Except for end-user common line services, access service does not include access service to a person who is not a provider(https:// www. lawinsider.com/dictionary/access-service).



Access Network Connecting the User to the Telecom Service Provider

The country is divided into 23 Service Areas consisting of 19 Telecom Circle Service and 4 Metro Service Areas for providing Unified Access Services.Unified Access Services operators provide collection, carriage, transmission and delivery of voice and/or non-voice messages by deploying circuit and/or packet switched equipment .Further, the Licensee can also provide

Voice Mail, Audiotex services, Video Conferencing, Videotex, E-Mail , Closed User Group (CUG) as Value Added Services over its network to the subscribers.

A Unified Access Services licensee can provide wire line as well as wireless services in a service area. Wireless services include Full Mobile, Limited Mobile and Fixed Wireless services. The licensee can also provide various Value Added Services.

Cellular Mobile Services: The Country is divided into 23 Service Areas consisting of 19 Telecom Circle Service Areas and 4 Metro Service Areas for providing Cellular Mobile Telephone Service (CMTS).

In terms of National Telecom Policy (NTP)-1994, the first phase of liberalization in mobile telephone service started with issue of 8 licenses for CMTS in the 4 metro cities of Delhi, Mumbai, Calcutta and Chennai to 8 private companies in November 1994. Subsequently, 34 licenses for 18 Territorial Telecom Circles were also issued to 14 private companies during 1995 to 1998. During this period a maximum of two licenses were granted for CMTS in each service area and these licensees were called 1st & 2nd cellular licensees. These licensees were to pay fixed amount of license fees annually based on the agreed amount during the bidding process. Subsequently, they were permitted to migrate to New Telecom Policy (NTP) 1999 regime wherein they are required to pay License fee based on revenue share, which is effective from 1st August, 1999.

State owned Public Sector Undertakings (PSUs) {Mahanagar Telephone Nigam Limited (MTNL) and Bharat Sanchar Nigam Limited (BSNL)} were issued licenses for provision of CMTS as third operator in various parts of the country. Further, 17 fresh licenses have been issued to private companies as fourth cellular operator in September/ October, 2001, one each in 4 Metro cities and 13 Telecom Circles.

As per conditions of the License Agreement, cellular operators can provide all types of mobile services including voice and non-voice messages, data services and Public Call Offices (PCOs) utilizing any type of network equipment, including circuit and/or package switches that meet the relevant International Telecommunication Union (ITU) /Telecom Engineering Centre (TEC) standards.

3.6.2. **Carrier Services** : There are following types of carrier services for which the licenses/ authorizations are obtained from the government by the private operator.

(a) PMRTS-public mobile radio trunk services

(b) Voice mail/audiotext/UMS

(c) GMPCS-global mobile personal communications by satellite

(d) IPLC- international private leased circuit

(e) INMARSAT- International Maritime Satellite Organisation

(f) Infrastructure Provider

(g) International long distance

(h) National long distance

(j) CMRTS- Captive Mobile radio trunk services

(k) Other service providers - tele banking, telemedicine, tele trading, e-commerce, network operation Centre, vehicle tracking

(l) Virtual network operator.

3.6.3. **Data Services** : Data services were launched in India on 15th August, 1995 by Videsh Sanchar Nigam Limited. In Nov, 1998, the Government opened up the sector for providing Internet services by private operators. A liberal licensing regime was put in place with a view to increase Internet penetration across the country. The New Telecom Policy envisaged opening up of internet Telephony where upon Government decided to permit ISPs to process and carry voice signals (Restricted Internet Telephony) with effect from 1st April 2002.

In year 2007, the Government decided to issue a single license for the following services:-

(a) Internet Services

(b) VSAT & Satellite Communication

(c) INSATMSS

(d) Network Operation & Control Center (NOCC)

(e) Disaster Management

(f) Internet without Telephony

(g) Internet with Telephony

(h) VSAT

3.7. **Conditions of Unified License**. Unified License agreement document is a very comprehensive document which contains a range of conditions for the award of license. It includes general conditions like:-

3.7.1. **General Conditions:**

(a) Ownership of the Licensee company.

(b) Paid up equity capital and networth.

(c) Scope of the license.

(d) Duration of the license-20 years.

(e) Renewal of the license-renewal for 10 years on licensee request.

(f) Transfer of license-with prior permission.

(g) Provision of service- responsibility of the licensee to own, install, test and commission the systems to operate the services.

(h) Financial penalty, suspension of services, termination of license be imposed in case of breach of contract.

(j) Licensee surrenders by giving 60 days prior notice.

(k) In the interest of national security, licensor's right to take over the services, equipment and network.

3.7.2. **Financial Conditions** : Licensee needs to pay a few levies and taxes to the government like :-

(a) Entry fees - one time as per the service authorization.

(b) Annual License fees as a percentage of revenue earned.

(c) Spectrum usage charges.

(d) Bank guarantees.

3.7.3. **Technical Conditions**:

(a) The licensee to provide the details of the technology, proposed to be deployed for operation of the service, to the Licensor.

(b) Licensee to meet TEC standards/, standards set by International standardization bodies, such as, ITU, ETSI, IEEE, ISO, IEC etc.,; or set by International Fora, such as 3GPP, 3GPP-2, IETF, MEF, WiMAX, Wi-Fi, IPTV, IPv6, etc. as recognized by TEC.

(c) Adhere to the National Fundamental Plans like National Numbering Plan, Signaling Plan, Routing Plan, National Frequency Allocation Plan and any other plan, as applicable to the respective service authorization, issued by Department of Telecommunications and technical standards as prescribed by Licensor from time to time.

(d) Comply with the instructions / directions/ guidelines issued by Licensor on EMF exposure norms from time to time.

(e) Adopt Renewable Energy Technologies (RETs) for powering the Telecom Network, deploy energy efficient equipment and reduce the carbon footprint.

3.7.4. In addition to these conditions, the document contains operating conditions, **Security conditions,Spectrum allotment and usage conditions.**

3.8. **<u>License Fees Payment and Collection Procedure</u>**.

3.8.1. The license fee for the **Captive Licenses** is calculated on the basis of methods provided in the license agreement. The calculation of license fee against the **Commercial Licenses** under revenue sharing regime is on self-assessment basis. At present, LF is charged as 8 percent of Adjusted Gross Revenue **(AGR)**.

3.8.2. **Interpretation of Definition of Gross Revenue/ Adjusted Gross Revenue**: Gross Revenue is inclusive of installation charges, late fees, sale proceeds of handsets (or any other terminal equipment etc), revenue on account of interest, dividend, value added services, supplementary services, access or interconnection charges, roaming charges, revenue from permissible sharing of infrastructure and any other miscellaneous revenue, **without any set-off** for related item of expense, etc.

For the purpose of arriving at the “Adjusted Gross Revenue (AGR)” the following is to be excluded from the Gross Revenue to arrive at the AGR:

(a) PSTN related call charges (Access Charges) actually paid to other eligible/entitled telecommunication service providers within India;

(b) Roaming revenues actually passed on to other eligible/entitled telecommunication service providers and;

(c) Service Tax on provision of service and Sales Tax actually paid to the Government if gross revenue had included as component of Sales Tax and Service Tax.

Latest Amendments: On 25 October 2021, the Department of Telecommunications, Government of India (DoT) issued a landmark amendment (Amendment) to the telecom license conditions. The Amendment ushers in a new dawn for the telecom licensing regime in India by redefining the basis of 'adjusted gross revenue' (AGR).

AGR has been the basis of computing the license fees payable by a telecom licensee and has been a subject of debate for at least the past couple of decades. This is primarily because the definition of 'gross revenue' (Gross Revenue) under each service authorisation, which in turn forms the basis of AGR, has thus far taken into the consideration the entire revenue of an entity (including revenue from non-telecom activities).

Background. The issue was exacerbated by the judgment passed by the Hon'ble Supreme Court of India in October 2019, pursuant to which DoT's interpretation of the license terms (and specifically the definition of Gross Revenue) was upheld. On the other hand, telecom service providers (TSP) had vociferously contested that they should only be liable to pay license fees based on the revenue generated from licensed activities. In many ways, the Supreme Court judgment shook the telecom industry, with many entities seeking refuge under the insolvency and bankruptcy regime. With the fate of the industry and consumer interest at stake, the Government announced a slew of reforms on 15 September 2021. A cornerstone of the reforms was the rationalization of AGR with the exclusion of '*non-telecom*' revenue. The present Amendment is a culmination of this measure.

3.8.3. **Introduction of 'Applicable Gross Revenue' (ApGR)**. DoT has introduced the concept of ApGR vide the Amendment. In simple terms, ApGR refers to the Gross Revenue, which is reduced by certain prescribed items. Importantly, this list of excluded items comprises of "revenue from operations other than telecom activities and operations". Additionally, the following are also excluded from Gross Revenue for computing ApGR:

(a) Revenue from activities under a license/ permission issued by Ministry of Information & Broadcasting,

(b) Receipt from Universal Service Obligations Fund,

(c) Other income like income from dividend, income from interest, capital gains (on account of profit of sale of fixed assets and securities), gains from foreign exchange rate fluctuations, income from property rent, insurance claims, bad debts recovered and excess provisions written back, subject to fulfillment of certain conditions prescribed under the Amendment (e.g., DoT has clarified that interest earned on refundable deposits from customers, telecom vendors and other licensees shall be considered in ApGR). It appears that the overarching rationale adopted by DoT here is that income from these heads is distinct from the core operations of the entity and is otherwise not unique to telecom business.

(d) To arrive at AGR, the prescribed heads under each service authorisation (e.g. pass-through charges to other TSPs, goods and services tax paid to the Government, etc) will now be subtracted from ApGR instead of Gross Revenue (as under the preceding framework). Therefore, ApGR acts as a midpoint between Gross Revenue and AGR.

Other Notable Features :

(a) Amendment is applicable prospectively from 1 October 2021.

(b) DoT has also prescribed new formats for the 'Statement of Revenue and License Fees' for each service authorisation, based on the principles outlined above.

The government has in the past, once provided an out of box solution by offering Migration Package in 1999 which was salutary in nature. The Oct'21 amendments are again a revolutionary package. Government has not shied of bold regulatory paradigm shift in order to ensure that the growth continues. In order to review the stress in the balance sheet of TSPs, the government has offered other relief too as described in earlier paras.

3.8.4. **License Fee as a Percentage of AGR (Adjusted Gross Revenue)**.

Table No. 3 : CMTS/Basic/UASL

LSA Category	w.e.f 1.8.1999	w.e.f 1.1.2001	w.e.f 1.4.2004	w.e.f 1.7.2012	w.e.f 1.1.2013
Metro/A	15%	12%	10%	9%	8%
B		10%	8%	8%	
C		8%	6%	7%	

Table No. 4 : Internet Service Provider

ISP	License Fee	ISP-IT	License Fee
Till 31.10.2003	Nil		
1.11.2003 to 31.12.2005	Rs. 1 p.a.	24.8.2007 to 30.6.2012	6%

1.1.2006 to 30.6.2012	6%		
1.7.2012 to 31.3.2013	7%	1.7.2012 to 31.3.2013	7%
From 1.4.2013	8%	From 1.4.2013	8%

3

3.8.5. **Mechanism of License Fees Payment and Collection**. The Schedule of payment of Annual License Fee and other dues are as under:

(a) License Fee shall be payable in four quarterly installments during each financial year (FY). Quarterly installment of license fee for the first three quarters of a financial year shall be paid within 15 days of the completion of the relevant quarter.

The AGR based license Fee shall be paid by the Licensee on the basis of revenue on accrual basis for the quarter, duly certified with an affidavit by a representative of the Licensee who is authorized by the Board Resolution coupled with General Power of Attorney.

However, for the last quarter of the financial year, the Licensee shall pay the License Fee by 25th March on the basis of expected revenue for the quarter, subject to a minimum payment equal to the revenue share paid for the previous quarter.

(b) The Licensee shall adjust and pay the difference between the advance payment made and actual amount duly payable for the last quarter of financial year within 15 days of the end of the quarter.

(c) The quarterly payment shall be made with an affidavit as at Annexure-A of the respective Chapter of service authorization of the licenses agreement together with a Statement of Revenue Share and License Fee separately for each service and service area in the Proforma prescribed at Appendix-II to Annexure-A of the respective chapter of the service, showing the computation of revenue and License fee payable.

The aforesaid quarterly Statements of each year shall be required to be audited by the Auditors (hereinafter called Licensee's Auditors) appointed by the Licensee under Section 224 of the Companies' Act, 1956. The report of the Auditor should be in the prescribed form as per Appendix-I to Annexure-A of the respective Chapter of service authorization.

(d) Final adjustment of the License fee for the year shall be made on or before30th June of the following year, based on the gross revenue figures, the minimum License Fee or the License fee based on Presumptive AGR, which shall be submitted by the Licensee, duly certified by the Auditors of the Licensee in accordance with the provision of the Companies' Act, 1956.

(e) A reconciliation between the figures appearing in the quarterly statements submitted in terms of the Condition 20.4 of the License Agreement with those appearing in annual accounts shall be submitted along with a copy of the published annual accounts audit report and duly audited quarterly statements within 7 (seven) Calendar days of the date of

signing of the audit report. The annual financial account and the statement as prescribed above shall be prepared following the norms as prescribed in Annexure-B of the respective Chapter of service authorizations.

The statements and accounts submitted shall be assessed and verified by the Licensor and through its units namely Offices of Controller of Communication Accounts in respective service areas, as may be notified from time to time.

(f) **Time Schedule for document submission-** In order to assess/calculate the revenue of the licensee company to levy the license fees, the following documents needs to be submitted by TSPs as per following time schedule:-

Table No.5 : Time Schedule for Document Submission

Sr No	Documents	Ist Qtr	IInd Qtr	IIIrd Qtr	IVth Qtr
1	Unaudited quarterly statement of revenue for each quarters and documents for deduction claim(Within 30 Days from date of payment)	15th Aug	15th Nov	15th Feb	15th May

2	Audited quarterly statement of revenue for all the four quarters	60 Days from end of Financial Year			
3	Audited reconciliation statement				within 7 (seven) Calendar days of the date of signing of the audit report
4	Audited annual accounts	NA	NA	NA	30th Sep
5	Details of LF paid for each quarter during the relevant year	15th July	15th Oct	15th Jan	On the basis of expected revenue for the quarter, subject to a minimum payment equal to the actual revenue share paid of the 3rdQtr. by 25th March and balance on Actual Revenue payable (On accrual basis) by 15th April.

(g) All the charges relating to spectrum shall be payable at such time(s) and in such manner as prescribed from time to time by the Licensor/WPC Wing of the Department of Telecom.

(h) **Office of Controller of Communication Accounts**. There are 4 Principal CCA and 24 CCA offices in the country. They perform following revenue functions with respect to License Fees:

(i) **License Fee Collection**: The Office of Controller of Communication Accounts (CCA) is responsible for collection of license fee from all commercial licensees of Cellular, Basic, Unified Access Service, NLD, ILD, Commercial VSAT, PMRTS services, Internet Service Providers (without Telephony), Internet Service Providers (with telephony), New Licensees of Internet service and licenses of Captive VSAT, CMRTS, Radio links, Microwave links and OFC links. This is being done for all the 1072 licensees, wherever license fee is applicable.

(ii) Scrutiny of Documents & verification of deductions: They are also responsible for scrutiny of documents submitted by licensees viz. AGR statements and affidavits and also verify the deductions claimed by USAL and CMTS operators.

(iii) **Bank Guarantee**: CCA offices are also responsible for maintenance of Performance and Financial Bank Guarantees of above mentioned licenses and ensure encashment for non-renewal

and non-fulfillment of terms and conditions of respective License Agreements.

(iv) Assessment and calculation of license fee: CCA offices are doing this function for ILD, NLD, Commercial VSAT, PMRTS, Internet Service Providers (with telephony), New Internet licenses on the basis of Audited Annual Accounts and other audited financial statements submitted by licensees, calculations of license fee for licenses of Captive VSAT, CMRTS, Radio links, Microwave links and OFC links is done on the basis of number of terminal/channels working.

(v) **List of CCA Offices**:-

(aa) Andhra Pradesh

(ab) Assam

(ac) Bihar

(ad) Chhatisgarh

(ae) Delhi

(af) Gujarat

(ag) Haryana

(ah) Himachal Pradesh

(aj) Jammu & Kashmir

(ak) Jharkhand

(al) Karnataka

(am) Kerala

(an) Kolkata

(ao) Madhya Pradesh

(ap) Maharashtra

(aq) North East-1

(ar) Orissa

(as) Punjab

(at) Rajasthan

(au) Tamilnadu

(av) UP (East)

(aw) UP (West)

(ax) Uttarakhand

(ay) West Bangal

3.9. **Contribution of License Fees in the Total Non-Tax Revenue of the Government**.

3.9.1. Contribution of telecom sector revenue to gross domestic product (GDP) is around 6%. A significant portion of the non-tax revenues of the Government of India (GoI) comes from the license fees and other charges. Communication receipts worth 45,500 crores were part of 20,7632 Cr of total non tax revenue receipts in the year 2020- 21 which is approximately 24 percent.

3.9.2. **Trends of License Fees Collection** :-

Year wise License Fees Collection (in crores)

Table No.6 : Year wise License Fees Collection

FY	2015-16	2016-17	2017-18	2018-19	2019-20
Amount	15771	15615	13262	11134	39648

Source:(DOT, Annual Report 2021)

CHAPTER 4 : WORKING OF TELECOM BODIES-AN OVERVIEW

This chapter provides an overview of various institutions that play an important role in the telecom licensing framework in India.

4.1. Department of Telecom.

The Department of Telecommunications (DoT), under the administrative control of the Ministry of Communications and Information Technology (MOC&IT), is in charge of policy making. Over the years, it has been formulating developmental policies for the accelerated growth of the telecommunication services. The Department is the licensor for all the telecom services. As per the Indian Telegraph Act, 1885 and the Indian Wireless Telegraphy Act, 1933, the Central Government has the exclusive privilege of establishing, maintaining and working telegraph and wireless telegraphy equipment and has the authority to grant licenses. Central Government acts through the DoT. Government licensing & financing functions are derived from the government's sovereign authority. (NTP"99)

DoT is also responsible for frequency management in close coordination with the international bodies such as International Telecom Union and also enforces wireless regulatory measures by monitoring wireless transmission of all users in the country.

Following bodies of DoT plays an important role in discharging the role of licensor in licensing framework:

(a) **Digital Communication Commission (Erstwhile Telecom Commission):** The Commission was set up by the Government of India with administrative and financial powers of the Government to deal with various aspects of Telecommunications. The Commission is responsible for:-

(i) Formulating the policy of Department of Telecommunications for approval of the Government;

(ii) Preparing the budget for the Department of Telecommunications for each financial year and getting it approved by the Government; &

(iii) Implementation of Government's policy in all matters concerning telecommunication.

(b) **Wireless Planning Commission (WPC)**. The WPC was created in 1952 and is a wing of the DoT which is responsible for Frequency Spectrum Management, including licensing of wireless stations and caters to the needs of all wireless users (Government and Private) in India. WPC is divided in three groups:

(i) Licensing and Regulation

(ii) The new Technology group

(iii) Standing Advisory Committee on Frequency Application (SACFA) gives approval for radio frequency spectrum (RFS) used by telecom service providers. Obtaining a telecom license is not enough for the operator to begin rolling out the services; a no objection certificate is required from SACFA. It is an inter-ministerial body tasked with taking policy decisions about spectrum allocation and management. It comprises

representative from Defence ministry, the Airport authority, the Home ministry, the Wireless department and the DOT.

(c) **Telecom Engineering Centre (TEC)** approves the hardware and other infrastructure equipment used in telecom operations as per license conditions.

(d) **Controller of Communications Accounts (CCA)**. The offices established all over the country perform following revenue related functions of DOT as licensor.

(i) Licence Fee Collection: The Office of Controller of Communication Accounts (CCA) is responsible for collection of licence fee from all commercial licensees of Cellular, Basic, Unified Access Service, NLD, ILD, Commercial VSAT, PMRTS services, Internet Service Providers (without Telephony), Internet Service Providers (with telephony), New Licensees of Internet service and licences of Captive VSAT, CMRTS, Radio links, Microwave links and OFC links.

(ii) Scrutiny of Documents & Verification of deductions: They are also responsible for scrutiny of documents submitted by the licensees viz. AGR statements and affidavits and also verify the deductions claimed by USAL and CMTS operators.

(iii) Bank Guarantees: CCA offices are also responsible for maintenance of Performance and Financial Bank Guarantees of above-mentioned licenses and ensure encashment for non-renewal and non-fulfillment of terms and conditions of respective License Agreements.

(iv) Assessment and calculation of licence fee: CCA offices are doing this function for ILD, NLD, Commercial VSAT, PMRTS, Internet Service Providers (with telephony), New Internet licences on the basis of Audited Annual Accounts and other audited financial statements submitted by the licensees, calculation of licence fee for licences of Captive VSAT, CMRTS, Radio links, Microwave links and OFC links is done on the basis of number of terminal/channels working.

(v) The work relating to collection of spectrum charges in respect of private GSM service providers on revenue share basis has been transferred to CCA offices w.e.f. 1st April, 2004. The work relating to collection of spectrum charges in respect of private CDMA service providers was transferred to CCA Offices w.e.f. 1st April, 2005 . The work relating to collection of spectrum charges from M/s BSNL and M/s MTNL for their service areas was transferred to CCA offices w.e.f. 1-7-2005.The CMTS, Basic, and UASL licensees may approach the concerned CCA offices for clarifications, if any, regarding the spectrum charges, challans for payment, etc.

4.2. **Telecom Regulatory Authority of India (TRAI)**.

4.2.1. TRAI was constituted under the presidential ordinance issued in 1997, later it was ratified by the Parliament by enacting the TRAI Act.

The TRAI Act was amended through the TRAI (Amendment) Act, 2000 ("Amendment Act"). Before the amendment, TRAI exercised both regulatory and dispute resolution functions. The Amendment Act established the Telecom Dispute Settlement Appellate Tribunal to solely deal with relevant disputes. There was ambiguity in the Act as to whether TRAI recommendations are binding upon the Government; this was clarified by the Amendment Act.

4.2.2. **Constitution of TRAI**.

Telecom Regulatory Authority of India (TRAI) was established as a corporation under Section 3 of the Act. The head office of TRAI is in New Delhi. TRAI constitutes of a chairperson and less than two, full time and part-time members. The chairperson and the members of TRAI are appointed by the Central Government and the duration for which they can hold their office is three years or until they attain the age of 65 years, whichever is earlier. The persons who are appointed should have special knowledge and prior experience in the field of telecommunication, industry, finance, accountancy, law, management or consumer affairs. If someone, who has been in the service of the Government prior to appointment then he should have served the Government in the capacity of a Secretary or Additional Secretary for a period more than three years.

Section 8 deals with procedure to be followed with respect to meetings of TRAI. All questions before TRAI will be decided by a majority vote of the

members, present and voting. The person who is presiding the meeting will entitled to a second or casting vote.

The TRAI may also appoint officers and employees in order to carry out its function under this Act.

4.2.3. **Powers and Functions of TRAI**. The functions of the TRAI are enumerated under section 11 of the TRAI Act. The function mentioned under the provision has an overriding effect on any provision of the Indian Telegraph Act, 1885.

- The 2000 Amendment classified the TRAI's functions into four broad categories:
  - (i) Making recommendations on various issues;
  - (ii) General administrative and regulatory functions;
  - (iii) Fixing tariffs and rates for telecom services; and
  - (iv) Any other functions entrusted by the Central Government.
- The recommendations made by the TRAI are not binding on the Central Government. However, the Central Government has to mandatorily ask for recommendations from TRAI with respect to need and timing of new service provider and terms and conditions of the licence to be granted to the service provider. TRAI has the obligation to forward the recommendation to the Central Government within 60 days from the date of the request for recommendation. TRAI may also request for relevant

information or documents from the Central Government to make such recommendations and the Central Government has to furnish such information within seven days from the date of the request.

- The Central Government can issue license to the service provider, if TRAI fails to give any recommendation within the stipulated period. Where the Central Government is of the opinion that the recommendations made by TRAI cannot be accepted or need modification, then it can send them back to TRAI for reconsideration. TRAI may reply within a period of 15 days from the date of reference.
- TRAI also has the power to notify in the official gazette the rates at which telecommunication services are being provided in and outside India. TRAI shall ensure transparency while exercising its powers and discharging its functions.
- TRAI under section 12 has the power to call for information and conduct investigation. It also has got powers to issue directions under section 13.
- The TRAI has a robust process by which it arrives at its policy recommendations. It prepares comprehensive consultation papers offering extensive policy recommendations and engaging with relevant stakeholders through a public consultation process before presenting a set of reasoned recommendations.
- The power to make regulations is a plenary power of the authority. However, in MTNL Vs TRAI Delhi High Court held this power to be

subservient to the license terms issued by the DoT under section 4 of the Telegraph Act as a result TRAI can only make regulations within the framework provided by the government.

- TRAI has been an active regulator and policy adviser and has taken credit for the telecom success story attributed to a three-way partnership between government regulator and the private sector.

4.2.4. **Government Control Over TRAI**.

TRAI is not a completely independent telecom regulator. The Government exercises certain amount of control over TRAI. Under section 25 of the Act it has the power to issue directions which are binding on TRAI. The TRAI is also funded by the Central Government. Moreover, under section 35 of the TRAI Act, the Central Government has the power to make rules on various subjects and such rules are binding upon TRAI. Therefore, TRAI is not a completely independent telecom regulator as envisioned by the Supreme Court.

Role of TRAI is limited to making recommendations and issuing directives and regulations in strictly circumscribed areas.

There have been several instances where TRAI recommendations have either been rejected or stalled by DoT.

2006, TRAI's recommendation on Next Generation Network (NGN) were not accepted by DoT.

2008, TRAI's recommendation on issues related to internet Telephony not accepted.

There are an equal if not greater number of instances where TRAI recommendations have been accepted.

4.3. **Telecom Disputes Settlement and Appellate Tribunal (TDSAT)**.

4.3.1. In order to bring in functional clarity and strengthen the regulatory framework and the disputes settlement mechanism in the telecommunication sector, the TRAI Act of 1997 was amended in the year 2000 and TDSAT was set up to adjudicate disputes and dispose of appeals with a view to protect the interests of service providers and consumers of the telecom sector and to promote and ensure orderly growth of the telecom sector. In January 2004, the Government included broadcasting and cable services also within the purview of TRAI Act. After coming into force of the relevant provisions of the Finance Act 2017, the jurisdiction of TDSAT stands extended to matters that lay before the Cyber Appellate Tribunal and also the Airport Economic Regulatory Authority Appellate Tribunal.

4.3.2. **Composition of TDSAT**.

The Tribunal consists of a Chairperson and two Members appointed by the Central Government. The Chairperson should be or should have been a Judge of the Supreme Court or the Chief Justice of a High Court. A Member should have held the post of Secretary to the Government of India or any equivalent post in the Central Government or the State Government for a period of not less than two

years or a person who is well versed in the field of technology, telecommunication, industry, commerce or administration.

4.3.3. **Powers and Jurisdiction**.

The Tribunal exercises jurisdiction over Telecom, Broadcasting, IT and Airport tariff matters under the TRAI Act, 1997 (as amended), the Information Technology Act, 2008 and the Airport Economic Regulatory Authority of India Act, 2008. The Tribunal exercises original as well as appellate jurisdiction in regard to Telecom, Broadcasting and Airport tariff matters. In regard to Cyber matters, the Tribunal exercises only the appellate jurisdiction.

(a) **Procedure**. The Tribunal is not bound by the procedure laid down by the Code of Civil Procedure, 1908;

(i) It has the power to regulate its own procedure;

(ii) It is to be guided by the principles of natural justice; Tribunal has the same powers as are vested in a civil court under the CPC in respect of:

(aa) summoning and enforcing the attendance of any person and examining him on oath;

(ab) requiring the discovery and production of documents;

(ac) receiving evidence on affidavits;

(ad) subject to the provisions of sections 123 and 124 of the Indian Evidence Act, 1872, requisitioning any public

record or document or a copy of such record or document, from any office;

(ae) issuing commissions for the examination of witnesses or documents;

(af) reviewing its decisions;

(ag) dismissing an application for default or deciding it ex parte;

(ah) setting aside any order of dismissal or any application for default or any order passed by it ex parte; and

(aj) any other matter which may be prescribed. In addition, the Tribunal can call for the records relevant to disposing of a Petition or appeal, for the purpose of examining the legality or propriety or correctness of any decision or of any order etc of TRAI.

(b) **Nature of Proceedings**.

(i) The Tribunal is the Court of first instance except cyber matters.

(ii) Every proceeding before the Tribunal is deemed to be a judicial proceeding within the meaning of sections 193 and 228, and for the purposes of section 196, of the Indian Penal Code (45 of 1860);

(iii) The Tribunal is deemed to be a civil court for the purposes of section 195 and Chapter XXVI of the Code of Criminal Procedure, 1973 (2 of 1974).

(iv) Tribunal's Orders are executable as a decree of civil court.

4.3.4. **Functions of TDSAT regarding Telecom Licensing Issues**.

(a) To adjudicate any dispute :-

(i) between a licensor and a licensee;

(ii) between two or more service providers;

(iii) between a service provider and a group of consumers:

(b) Hear and dispose of appeal against any direction, decision or order of the TRAI.

4.3.5. **Telecom Disputes**. Type of telecom disputes are as under:-

(a) Between licenser & licensee

(i) Non compliance of license conditions

(ii) Roll out obligation – Between two service providers

(iii) Related to interconnection issues and agreement.

(iv) Damage of infrastructure due to developmental activities of other operators.

(v) Related to IUC Billing.

(vi) Unauthorized use of resources like spectrum.

(b) Between Service Provider & Consumer groups

(i) Quality of service.

(ii) Wrong/excess billing. Other general issues.

(iii) Other general issues:- Charging issues. – The interference of frequency spectrum between operators. • GSM to CDMA. • CDMA to CDMA. – The default of IUC payment by Operators.

4.3.6. **Appeals** : In respect of Telecom, Broadcasting and Airport tariff matters, the Tribunal's orders can be appealed to the Supreme Court but only on substantial questions of law. However, no appeal lies against an interlocutory order or against any decision or order made by the Tribunal with the consent of the parties. In regard to Cyber matters, the Tribunal’s order can be appealed before High Court.

CHAPTER 5 :

TELECOM LICENSING FRAMEWORK- AN INTERNATIONAL SENERIO

This chapter deals with licensing regime of a few countries like UK, USA, China and Germany and their comparison with Indian telecom licensing framework.

5.1. Telecome Licensing Framework of United Kingdom.

5.1.1. **Telecommunications laws, regulations and policies** which have outlined the framework in UK are as follows:

The primary legislation governing the telecommunications in the UK is the Communications Act 2003. It is interesting to note that while Indian telecom framework is based on a 19th century Act, UK has a very recent legislation.

The Communications Act 2003 implements the following European Directives:

(a) Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services Directive 2002/20/EC on the authorisation of electronic communications networks and services.

(b) Directive 2002/ 19/EC on access to and interconnection of electronic networks and associated facilities Directive 2002/22/EC on universal service and user rights.

(c) The Wireless Telegraphy Act 2006 sets out the regulatory framework for radio spectrum The Competition Act 1998.

(d) The Data Protection Act 1998 governs the processing of personal data.

(e) The Regulation of Investigatory Powers Act 2000 governs the interception of the communications.

5.1.2. **Licensing Authority:** The Office of Communications (Ofcom) regulates the UK communications. Ofcom takes care of the licensing of a range of telecom activities like mobile telecommunications , wireless broadband and the use of radio spectrum

5.1.3. **Key feature of the framework** are:-

(a) **Ownership and market access restrictions**: Unlike Indian licensing framework, no foreign ownership restrictions apply to authorisations to provide telecommunications services

(b) **Communications provider**: Communications providers mean those who carry content services for example:

(i) Fixed-line owners and operators (such as British Telecommunications (BT) and Virgin Media).

(ii) Mobile network operators (MNOs) (such as Vodafone and O2).

(iii) Companies who use BT's network for their own "indirect access" voice or internet services (using access codes or carrier pre-selection) and wholesale line rental voice and internet services.

(iv) Telecoms resellers providing bespoke services, even though they do not own a network themselves.

(v) Mobile virtual network operators (MVNOs) (such as Virgin Mobile) who do not own their own network but use networks belonging to MNOs.

(vi) Internet service providers (ISPs), regardless of the technology they use. They may provide broadband access via:

(aa) their own fixed-line network (BT);

(ab) BT's network using ADSL technology (AOL);

(ac) 3G, 4G or 5G mobile;

(ad) cable (Virgin Media); or

(ae) satellite (Sky).

(vii) VoIP (voice over internet protocol) operators (such as Skype).

(viii) Satellite network providers (such as Sky).

(ix) Broadcast network providers (such as Arqiva).

Communications providers, thus do not mean telecoms equipment providers or content providers (of either audiovisual media services or information society services).

(c) **ECN and ECS**: The types of communications providers listed above can be defined as "electronic communications network" (ECN) providers or "electronic communications service" (ECS) providers. ECN and ECS providers do not need any specific permission to operate, because they are "generally authorised" to operate so long as they comply with the General Conditions of entitlement (GCs)

Communications providers are required to consider the definitions of an ECN and an ECS carefully, to check whether they fall into either category. The categories are wide ranging:

(i) An ECN is a system for conveying signals of any kind using electrical, magnetic or electromagnetic energy (section 32(1),Communications Act). It includes the apparatus that makes up the system, switching or routing apparatus, software stored data, and "other resources" including non-active network elements.

(ii) An ECS is any of the following types of service provided by means of an electronic communications network that is not a content service (that is, a service that involves supplying material or involves exercising editorial control over content) (section 32(7), Communications Act)):

(aa) Internet access service.

(ab) Number-based interpersonal communications service.

(ac) Any other service consisting, or having as its principal feature, the conveyance of signals, such as a transmission service used for machine-to-machine services or for broadcasting(Section 32(2), Communications Act).

(d) "**Interpersonal Communications Service**" is a new definition introduced by the EECC. It covers communications between a finite numbers of people but excludes services that enable interpersonal and

interaction communications as a minor ancillary feature intrinsically linked to another service (such as a communication channel in an online video game). It is intended to cover services that look and feel like telephone calls or texts even when they are not provided by traditional means. There are two types of interpersonal communications service, those that are number-based (traditional telephone services using numbers in national or international numbering plans) and those that are number-independent (for example, voice-over internet protocol (VoIP) or "over-the-top (OTT)" calls, which is intended to catch services such as Skype, WhatsApp and Messenger).

The Communications Act and the EU legislation from which it derives were designed to remove the distinction between different types of communications networks and services and to apply the same regulatory regime to all communications networks and services, whatever content they delivered, to reflect that the same content could be delivered in many different ways, and there is consequently no significant difference in the way in which ECNs and ECSs are regulated. For example, BT operates over its own network, while TalkTalk operates a service over BT's network, but from the end-user's point of view, the services they receive are essentially the same. Likewise, the same audiovisual content can be watched on television or over the internet, with delivery of either format being over wireless frequencies or via cable or satellite.

5.1.3. **Authorisation**.

(a) **General Conditions of Entitlement**: ECN and ECS providers are generally authorised to operate, that is, they do not need to apply for any specific permission to do so (although they may need a licence in relation to the particular type of network or service they are operating: All ECN and ECS providers must comply with the General Conditions, which are drawn up and are enforced by Ofcom under the Communications Act. The GCs are divided into three sections and contain a range of requirements:

(i) Part A: network functioning (including on access and interconnection obligations and availability of networks).

(ii) Part B: numbering and technical (including on number portability).

(iii) Part C: consumer protection (including on contracts, consumer information, billing, complaints handling, nuisance calls and switching).

Each GC sets out at the top what types of service it applies to, for example, depending on whether the service is available to the general public or only to a private group (such as bespoke services only available to particular users within one company). For example, the requirement to provide directory services only applies to publicly available telephone services.

Some larger providers are also subject to specific terms, of which they are notified separately, for example, in relation to the provision of access to their networks to third-party providers, or in relation to their having "significant market power" in a particular market.

(b) **Licenses for Networks or Services**.

Providers of certain types of networks or services need specific authorisation. For example:

(i) Anyone using radio spectrum (such as an MNO or satellite service provider) needs a licence under section 8 of the Wireless Telegraphy Act 2006, unless the government has exempted the particular use from the need for a licence.

(ii) Satellite operators also need to apply to the International Telecommunication Union for orbital slots as well as operating licences in all jurisdictions into which services are provided.

(iii) Multiplex operators need a licence under section 7 of the Broadcasting Act 1996. Multiplexes are digital broadcasting facilities that use a set-top box to convert signals for viewing.

5.1.4. **Access and Interconnection**.

Before the 1980s, the telecoms industry was dominated by monopolies such as BT. Since the 1980s, however, competitive markets have been created in all aspects of communications provision.

Because only a couple of large players (BT and Virgin Media) own most of the fixed line networks, regulation ensures that third parties have access to those networks to set up their own services.

Communications providers also need to "interconnect" with one another so that the customers of one network can communicate with the customers of another. Interconnection is regulated in various ways, but in particular by GC A1.2, which requires all providers of public ECNs to negotiate interconnection with other providers of public ECNs with a view to reaching agreement within a reasonable period.

5.1.5. **Access to Land**.

Ofcom grants rights for communications network providers to access private or public land to install and maintain essential equipment (for example, cables or masts) in, over or under that land under the Electronic Communications Code. The Code is set out in Schedule 3A of the Communications Act.

ECN and ECS providers can apply to Ofcom for number ranges, so that they can subsequently allocate individual numbers to customers.

End-users have a right to keep their telephone number when they switch provider (Article 106(2) of the EECC), and communications providers must comply with GC B3 when "porting" numbers from one provider to another.

5.1.6. **Net Neutrality**. Net neutrality is the principle that network operators should ensure to guard against discrimination between the types and sources of data travelling across their networks.

5.1.7. **Security and Resilience**. Network and service providers are required by sections 105A to 105D of the Communications Act to manage risks to the security of public electronic-communications networks and services, and to inform Ofcom of certain breaches to network and service security. Ofcom can audit a company's security measures.

Certain operators of internet exchange points will have to comply with the Network and Information Systems Regulations 2018, which imposes security and incident reporting obligations. For more information,

5.1.8. **Data Retention, Interception and Use**. Most communications providers are required to consider legislation in relation to the data they handle.

Retention. In the UK, data retention is regulated under the Investigatory Powers Act 2016 (IPA) and includes powers for the Secretary of State to require a telecoms operator to retain relevant communications data in certain circumstances.

Interception. It is the duty of Communications providers to be careful about the way they intercept data. This is regulated by the Investigatory Powers Act 2016.

5.1.9. **Role of Ofcom**. Ofcom's role in relation to telecoms framework includes:

Drafting and enforcing the GCs, specific conditions and wireless telegraphy licences.

(a) Shared responsibility with the Competition and Markets Authority (CMA) for competition matters in the communications sector.

(b) Concurrent powers with the CMA to exercise Competition Act powers

(c) (section 371, Communications Act).

(d) Concurrent powers with the CMA in relation to market investigations and super-complaints under the Enterprise Act 2002, insofar as they relate to communications matters (section 370, Communications Act).

Appealing Ofcom Decisions. Certain acts or decisions of Ofcom (primarily in relation to the GCs and the use of radio spectrum) can be appealed to the Competition Appeal Tribunal (CAT).

5.1.10. **Offences under the Communications Act**. Ofcom can enforce compliance with general and specific conditions under section 94 (SMP apparatus conditions) and section 96A (all other conditions) of the Communications Act through a process of notification and enforcement notices which can lead to civil proceedings for failure to comply with an enforcement notice. Section 96 and section 96B of the Communications Act gives Ofcom the power to impose

financial penalties for failure to comply with a notification according to the terms of section 97 of the Communications Act. In serious or urgent cases Ofcom may give a direction suspending or restricting a provider's entitlement to provide ECNs or ECSs, and it may require a provider to pay compensation to its customers (sections 98 and 100, Communications Act). Providing an ECN or ECS in breach of a direction is a criminal offence.

A communications provider who wants to bring action against another communications provider for breach of the GCs must get consent from Ofcom to do so (section 104(4), Communications Act).

A number of other offences under the Communications Act apply to networks and services. These apply mainly to dishonest or offensive use of ECNs and ECSs (sections 125-127, Communications Act), and can lead to fines or imprisonment.

There is also a lesser offence of persistent misuse of a network or service (section 128, Communications Act), which carries a maximum penalty of a £2 million fine. "Persistent misuse" occurs where the effect or likely effect of the use of the network or service is to cause another person unnecessarily to suffer annoyance, inconvenience or anxiety, for example, through the high use of "silent" or "abandoned" calls, something that has come under scrutiny from Ofcom.

5.1.11. **License Fees**: A mobile operator is required to pay a licence fee when granted a licence to install mobile equipment under the terms of the

Wireless Telegraphy Act 2006. All service providers with relevant turnover in excess of a set threshold (currently GBP 5,000,000) must also pay license fees currently set at around 0.0833% of turnover.

Table No. 7 : Comparison of Indian and Uk Licensing Framework.

PARAMETERS	INDIA	U K
Law	Indian Telegraph Act, 1885 , TRAI Act, IT Act	Communications Act 2003 The Wireless Telegraphy Act 2006
Licensor	Department of Telecom	Ofcom
License/ authorisation	1. India is a heavily regulated telecoms market with telecoms service providers being required to obtain a licence in order to provide services. 2. Foreign investment caps have recently been removed and 100% foreign ownership is permitted. A foreign investment approval has to be obtained for foreign investment above 49	1. Subject to a handful of discrete exemptions (concerning the use of spectrum), communication providers have general authorisation to operate in the UK and do not require a licence, permit, consent etc. 2. There are no requirements for a communications provider to be domiciled in the UK prior to or during the provision of services. Advice should however be sought from a tax perspective. 3. Where Ofcom identifies a breach, it

	There are also restrictions on participation of foreign nationals in the management of telecoms companies. All telecom services have to be provided by Indian incorporated entities. Such services cannot be provided by foreign domiciled entities. International bandwidth can be sold and billed to customers at the foreign end of such connectivity but selling without a licence to customers at the domestic end is likely to violate applicable law. 3. Penalties for breach of telecom licences are based more on damages mentioned in licence	will notify the relevant provider and require it to take necessary steps to rectify the breach. Failure to comply with the initial notice may lead to Ofcom issuing an enforcement notice and where the terms of the enforcement notice are not complied with, Ofcom may instigate civil proceedings and levy a fine. In addition, in the most serious of cases, Ofcom may suspend or restrict the providers entitlement to provide a regulated communications service and require that compensation is paid to the providers' customers. Breach of a direction is a criminal offence although providers in receipt of a notice or direction must be given the opportunity to make representations in their defence. Ofcom has the power to issue enforcement notices to cease persistent misuse of a network or service. Ofcom may also require entities to provide

	agreements with telecom providers. For example, a universal access or national long distance telecom operator would be liable for damages of up to INR 500 million. Further, telecom providers are required to provide bank guarantees. On violation of licence conditions, the bank guarantees can be invoked by the DoT.	certain information relating to Ofcom's regulation or networks and services.
License fees	Most telecom service providers have to pay a license fee, which is 8% of their "adjusted gross revenue". This does not include spectrum fees which are payable separately based on auctions conducted. This	A mobile operator is required to pay a licence fee when granted a licence to install mobile equipment under the terms of the Wireless Telegraphy Act 2006. All service providers with relevant turnover in excess of a set threshold (currently GBP 5,000,000) must also pay an 'administrative charge' currently

	does not apply to Other Service Providers and Telemarketers. Goods and Services tax is generally applicable on telecom services at a rate of 18%.	set at around 0.0833% of turnover.

5.2. **Licensing Framework of USA**.

5.2.1. **Overview of Legal Landscape**. In the United States, telecom landscape is regulated in the following ways:

(a) **Interstate telecommunications** are regulated at the Federal level by the Federal Communications Commission (FCC). The FCC also regulates, but to a lesser extent, Voice Over Internet Protocol (VoIP) which is a jurisdictionally mixed service.

(b) **Intrastate telecommunications** are regulated by the state public utility commissions/public service commissions. All 50 states and the District of Columbia regulate intrastate telecommunications. There is great variation in telecommunications regulation under state law. However, all states generally require telecommunications providers to register with the state public utility/service commission, some require particular types of carriers to file tariffs for applicable services, and about half of the states requires carriers to contribute to state universal service funds and other

similar programs. Additionally, some states and many localities collect emergency 911 fees.

Key Telecommunications Laws: The Communications Act of 1934, as amended (the Act), authorizes the Federal Communications Commission (FCC) to regulate telecommunications, cable, wireless, satellite and other similar services in the US.

5.2.3. **Telecom Bodies or Authorities**:-

(a) The Act authorizes the FCCto regulate and license telecommunications services.

(b) Where not pre-empted by the Act, state public utilities commission's/public service commission's regulate intrastate telecommunications, including by requiring a state authorization.

(c) Universal Service AdministrativeCorporation(USAC) is authorized by the Act to administer the Universal Service Fund (USF), which subsidizes telephone and broadband services in rural and high-cost areas and to low-income individuals, and Internet service to schools and libraries.

5.2.4. **Overview of Consents, Licences and Authorisations Required Prior to the Commencement of Telecommunications Activities**. Entities are authorized to provide domestic telecommunications services in the US pursuant to a Section 214 authorization, which is automatically granted by the FCC upon

registration with the FCC (and USAC). There is no requirement to renew a Section 214 authorization.

Entities seeking to utilize the radio spectrum to provide domestic telecommunications service must apply for and obtain a radio license for the frequencies to be used before commencing service. Providers of licensed wireless, broadcast or satellite services are required to operate consistent with the terms of their FCC license and applicable FCC rules, including those limiting operating parameters to protect against interference. Licensees providing commercial mobile radio services are classified as telecommunications carriers. Radio licenses are term-limited and must be renewed to permit continued operation beyond the license term.

Entities seeking to provide telecommunications services between the United States and any foreign point must apply for and obtain an international Section 214 authorization from the FCC before commencing service. There is no requirement to renew a Section 214 authorization.

Telecommunications carriers must obtain an FCC Registration Number (FRN).

Telecommunications carriers and other providers of telecommunications must file an FCC Form 499-A registration with USAC prior to commencing service and contribute to USF pursuant to the revenue reported in quarterly filed Form 499-As.

FCC radio licenses and Section 214 authorizations generally may not be transferred or assigned except with the prior approval of the FCC (internal

reorganizations and involuntary bankruptcy being exceptions). Approval of applications for license transfers or assignments may occur as rapidly as overnight or can take many months, depending on the nature of the license(s), the competitive issues raised, and whether foreign ownership is involved. Some state laws also require approval by the state's respective public service/utilities commission prior to the transfer of control or assignment of state telecommunications authorizations.

5.2.5. **Domicile Restrictions Preventing the Operation of Certain Telecommunications Activities by Non-Domiciled Entities**. With respect to non-wireless services, there are no outright prohibitions on foreign telecommunications carriers serving US customers and no requirement for foreign carriers to hold the Section 214 authorization through a US subsidiary. However, an applicant for Section 214 authority that is a foreign telecommunications carrier, an entity that is affiliated with one or more foreign carriers, and/or an entity with a 10% or greater direct or indirect foreign owner, generally will experience a more rigorous and much longer application process often taking six months or more. This is because the FCC will refer such application to an interagency review body called Team Telecom to review the application with respect to national security, law enforcement, foreign policy, and trade concerns. Team Telecom is comprised of officials from the Department of Justice, Department of Homeland Security, Federal Bureau of Investigation, Department of Defense, and potentially other agencies. Team Telecom will typically seek

more information from the applicant regarding its ownership (particularly foreign ownership), affiliates, the nature of the facilities and equipment used, the provisioning of services, the protection of customer data, network security, and how the applicant will respond to law enforcement service of process. The FCC will not act on the application until Team Telecom indicates it has no objection to the grant. In some cases, the applicant may be asked to execute a network security agreement or take other mitigating measures to address potential concerns. On rare occasions, Team Telecom may object, in which case the FCC will generally not grant the license application.

5.2.6. **Existence of Relevant Interconnection/Roaming Regulations**. Telecommunications carriers are required to interconnect facilities and equipment with other carriers in order to exchange traffic. Generally, interconnection is negotiated between telecommunications carriers. State public service/public utilities commissions approve interconnection agreements and adjudicate interconnection disputes between carriers. Carriers are required to pay various forms of intercarrier compensation for the exchange of traffic.

Providers of wireline local exchange service are sometimes required to file intrastate tariffs with state public service/public utilities commissions pursuant to state law. Carriers file interstate tariffs for a decreasing number of legacy services with the FCC.

Mobile wireless service providers enter into roaming agreements with each other in order to allow customers to receive service outside of their home

network. Providers of commercial mobile data services must offer data roaming arrangements on commercially reasonable terms and conditions, subject to certain limitations.

5.2.7. **Telecommunication Laws and Regulations Affecting Consumers**. The FCC has adopted numerous consumer protection rules, which generally do not apply to telecommunications services provided to enterprise/business customers or to wholesale services provided to other carriers.

FCC consumer protection rules include:-

(a) The protection of telecommunications proprietary information generally and customer privacy by telecommunications carriers (including both wireline and wireless) based upon the requirement under the Act to protect and hold confidential, Customer Proprietary Network Information (CPNI), which is defined as:

(i) 'Information that relates to the quantity, technical configuration, type, destination, location, and amount of use of a telecommunications service subscribed to by any customer of a telecommunications carrier, and that is made available to the carrier by the customer solely by virtue of the carrier-customer relationship; and information contained in the bills pertaining to telephone exchange service or telephone toll service received by a customer of a carrier; except that such term does not include

subscriber list information. Subscriber list information is the information in a telephone directory' (47 U.S.C. § 222)

(ii) The FCC Truth-in-Billing policy, which applies to telecommunications services offered to consumers and is designed to improve consumers' understanding of their telephone bills. Among other things, the rules require that a telephone company's bill must:

(iii) Be accompanied by a brief, clear, non-misleading, plain language description of the service or services rendered Identify the service provider associated with each charge.

(iv) Clearly and conspicuously identify any change in service provider Contain full and non-misleading descriptions of charges.

(v) Identify those charges for which failure to pay will not result in disconnection of the customer's basic local service.

(vi) Provide a toll-free number for customers to call in order to lodge a complaint or obtain information (47 C.F.R § 64.2401).

(b) The regulation by the FCC of the process for switching a consumer's telecommunications carrier in order to protect against unauthorized changes (47 C.F.R §§ 64.1100 - 64.1190).

(c) Telemarketing including using robocalls, robotexts, and auto-dialers.

(d) Access to telecommunications services and equipment by persons with disabilities, including hearing aid compatibility, access to advanced

communications services and equipment, access to Internet browsers built into mobile phones, telecommunications relay services, and accessible video programming and video programming apparatus.

5.2.8. **Regulatory Taxes and Fees**. Telecommunications carriers and other providers of telecommunications are required to pay various regulatory fees and surcharges. These fees and surcharges, however, are not classified as 'taxes' and must clearly be distinguished from taxes on any invoice. The regulatory fee collected by FCC is in line with the expense recognition principle where FCC has been allocated money from the Congress in the form of annual expense. Here, FCC tries to recognize 100% of such allocation through the fee of each license type.

Specifically, a telecommunications carrier must contribute to the Universal Service Fund, absent an applicable exemption. The current contribution factor for USF is approximately 25% of qualifying interstate revenues.

Telecommunications carriers and other providers of telecommunications may be required to pay contributions to Telecommunications Relay Service, Local Number Portability (LNP), and the North American Numbering Plan Administrator (NANP) for numbering resources (invoiced following registration with USAC). It is permissible under FCC rules to pass these contributions and fees through to end user customers.

Telecommunications carriers, submarine cable licensees, and wireless, broadcast and satellite licensees are required to pay an annual FCC regulatory fee

(which is established annually in August based upon the service category). Most states have instituted state universal service fund.

5.2.9. **Key Sanctions and Penalties in the Case of Contravention of Telecommunications Laws and Regulations**. Compliance with the Act, the FCC rules, and the terms and conditions of licenses and authorizations are investigated and enforced by the Enforcement Bureau of the FCC. The Enforcement Bureau may first contact the licensee through a notice of inquiry or proceed directly to a Notice of Apparent Liability. If the Bureau finds noncompliance, the investigation is typically resolved through an Order of Forfeiture, which can mandate fines or order the seizure of property. Alternatively, the Bureau and licensee can resolve the investigation by jointly entering into a Consent Decree, which may involve an admission of liability, a reduced fine, and a multi-year compliance plan. Violations of a consent decree's terms is considered a violation distinct from any subsequent violation of the FCC's rules. In cases of egregious violation, the FCC may revoke some or all of a wrongdoer's licenses. The FCC has delegated investigative capacity to USAC to review (in the first instance) a carrier's compliance with its Universal Service Fund contribution obligations.

Table No. 8 : Comparison of Indian and USA Licensing Framework.

PARAMETERS	INDIA	USA
LAW	Indian Telegraph Act, 1885 , TRAI Act, IT Act	The Communications Act of 1934

LICENSING BODY	Department of Telecom	FCC , state public utilities commissions/public service commissions regulate intrastate telecommunications
LICENSING FRAMEWORK	1.India is a heavily regulated telecoms market with telecoms service providers being required to obtain a licence in order to provide services. 2. Foreign investment caps have recently been removed and 100% foreign ownership is permitted. A foreign investment approval has to be obtained for foreign investment above 49. There are also restrictions on participation of foreign nationals in the management of telecoms companies. All telecom services have to be provided	Entities are authorized to provide domestic telecommunications services in the US pursuant to a Section 214 authorization, which is automatically granted by the FCC upon registration with the FCC (and USAC). There is no requirement to renew a Section 214 authorization. Entities seeking to utilize the radio spectrum to provide domestic telecommunications service must apply for and obtain a radio license for the frequencies to be used before commencing service. Providers of licensed wireless, broadcast or satellite services are required to operate consistent with the terms of their FCC license and applicable FCC rules, including those limiting operating

	by Indian incorporated entities. Such services cannot be provided by foreign domiciled entities. International bandwidth can be sold and billed to customers at the foreign end of such connectivity but selling without a licence to customers at the domestic end is likely to violate applicable law. 3. Penalties for breach of telecom licences are based more on damages mentioned in licence agreements with telecom providers. For example, a universal access or national long distance telecom operator would be liable for damages of up to INR 500 million. Further, telecom providers	parameters to protect against interference. Licensees providing commercial mobile radio services are classified as telecommunications carriers. Entities seeking to provide telecommunications services between the United States and any foreign point must apply for and obtain an international Section 214 authorization from the FCC before commencing service. There is no requirement to renew a Section 214 authorization. Telecommunications carriers must obtain an FCC Registration Number (FRN). FCC radio licenses and Section 214 authorizations generally may not be transferred or assigned except with the prior approval of the FCC (internal reorganizations and involuntary bankruptcy being exceptions). Approval of applications for license

	are required to provide bank guarantees. On violation of licence conditions, the bank guarantees can be invoked by the DoT.	transfers or assignments may occur as rapidly as overnight or can take many months, depending on the nature of the license(s), the competitive issues raised, and whether foreign ownership is involved. Some state laws also require approval by the state's respective public service/utilities commission prior to the transfer of control or assignment of state telecommunications authorizations. 2. With respect to non-wireless services, there are no outright prohibitions on foreign telecommunications carriers serving US customers and no requirement for foreign carriers to hold the Section 214 authorization through a US subsidiary.
LICENCE FEES AND TAXES	Most telecom service providers have to pay a license fee, which is 8% of their "adjusted gross	Telecommunications carriers and other providers of telecommunications are required to pay various regulatory fees and surcharges. These fees and

	revenue". This does not include spectrum fees which are payable separately based on auctions conducted. This does not apply to Other Service Providers and Telemarketers. Goods and Services tax is generally applicable on telecom services at a rate of 18%.	surcharges, however, are not classified as 'taxes' and must clearly be distinguished from taxes on any invoice. Specifically, a telecommunications carrier must contribute to the Universal Service Fund. The current contribution factor for USF is approximately 25% of qualifying interstate revenues. Telecommunications carriers and other providers of telecommunications may be required to pay contributions to Telecommunications Relay Service, Local Number Portability (LNP), and the North American Numbering Plan Administrator (NANP) for numbering resources. Telecommunications carriers, submarine cable licensees, and wireless, broadcast and satellite licensees are required to pay an annual FCC regulatory fee (which is established annually in August based

		upon the service category).

5.3. **Germany**.

5.3.1. **Overview of Legal Landscape**. In order to promote functioning competition and to ensure a nationwide efficient infrastructure, the telecommunications market in Germany is subject to sovereign regulation mechanisms.

Whilst telecommunications providers had to obtain a licence in the past, the provision of telecommunications is not dependent on the granting of a licence anymore. It is therefore sufficient, in practice, to issue a written notification to the competent regulatory authority.

Applicable national and European legislation aims at opening the telecommunications markets and creating equal competition conditions. The German Telecommunications Act (Telekommunikationsgesetz - TKG) provides the competent Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway (Bundesnetzagentur - BNetzA) with ample regulatory instruments to foster effective competition.

5.3.2. **Key Telecommunications Laws, Regulations and Policies**. Provisions relating to the regulation of telecommunications are found in various other regulations, as well as the TKG. These include:

(a) Telecommunications Surveillance Regulation (Telekommunikations-Überwachungsverordnung - TKÜV).

(b) Frequency Fee Regulation (Frequenzgebührenverordnung - FGebV).

(c) Frequency Usage Contribution Regulation (Frequenznutzungs-beitragsverordnung - FBeitrV).

(d) Frequency Protection Contribution Regulation (Frequenzschutz-beitragsverordnung - FSBeitrV).

(e) Telecommunications Number Charges Regulation (Telekommuni-kations- Nummerngebührenverordnung - TNGebV)

(f) TKG EMVG FuAG Transfer Regulation (TKG-EMVG-FuAG-Übertra-gungsverordnung- TKEMVFuAÜbertrV).

(g) Telecommunications Numbering Regulation (Telekommunikations-nummerierungsverordnung - TNV).

(h) Telecommunications Emergency Call Regulation (Telekommuni-kations-Notrufverordnung - TNotrufV).

(j) Telecommunications Transparency Regulation (Telekommunikations-Transparenzverordnung - TKTransparenzV).

5.3.3. The key features of the TKG are:-

(a) Any person operating a public telecommunications network on a profit-oriented basis or providing a publicly available telecommunications service on a profit-oriented basis shall notify the BNetzA without undue

delay of their intention to provide, or of their ceasing to provide the activity and/or any changes in their undertaking (cf. Section 6 (1) TKG).

(b) The BNetzA has the power to put in place market regulation measures regarding markets which lack effective competition and to impose measures on undertakings having significant market power (cf. Part 2 TKG).

(c) Specific customer protection provisions - eg pertaining to price transparency, abuse of phone numbers (cf. Part 3 TKG) Regulation of broadcasting to some extent - eg interoperability of television sets (cf. Part 4 of the TKG).

(d) The granting of frequencies, numbers and rights of way (cf. Part 5 TKG).

(e) Universal services, which are defined as a minimum set of publicly available services of specified quality to which every end-user, irrespective of his place of residence or work, shall have access to at an affordable price and whose provision to the public as a basic service has become indispensable (cf. Part 6 of the TKG).

(f) Provisions pertaining to telecommunications secrecy, data protection and public security. In particular, it regulates that end-users must be enabled to suppress their telephone number (such suppression being excluded in cases of emergency calls) (cf. Part 7 of the TKG).

(g) Provisions pertaining to the organisation and powers of the BNetzA (cf. Part 8 of the TKG). In cases of serious or repeated breaches

of legal obligations, the BNetzA may, as a measure of last resort, prohibit the undertaking to act in its capacity of a telecommunications network operator or service provider (cf. Section 126 (3) TKG).

5.3.4. Regulatory Bodies or Authorities -BundesnetzagenturfürElektrizität, Gas, Telekommunikation, Post und Eisenbahnen.

5.3.5. **Types of Telecommunications Activities and/or Persons which are Subject to Legal and Regulatory Requirements**. The TKG distinguishes between providers of telecommunications networks and providers of telecommunications services. These categories are then further sub-divided into public and private providers.

A 'telecommunications network' is defined in the TKG as transmission systems and, where applicable, the switching and routing of equipment and other resources in their entirety which permit the conveyance of signals by wire, radio, optical or other electromagnetic means, including satellite networks, fixed and mobile terrestrial networks, electricity cable systems (to the extent that they are used for the purpose of transmitting signals, networks used for radio and television broadcasting, and cable television networks, irrespective of the type of information conveyed) (cf. Section 3 No. 27 TKG).

A 'telecommunications service' is defined as a service normally provided for remuneration consisting in, or having as its principal feature, the conveyance of signals by means of telecommunications networks, and includes transmission services in networks used for broadcasting (cf. Section 3 No. 24 TKG).

Manufacturers, distributors, owners and importers of certain transmitters and other telecommunications equipment can also be subject to statutory obligations under the TKG (cf. Section 90 (1) TKG).

Furthermore, the BNetzA has regulatory powers in connection with the allocation (including the withdrawal) of numbers (cf. Section 67 TKG).

5.3.6. **Overview of Consents, Licences and Authorisations Required Prior to the Commencement of Telecommunications Activities**. As a matter of principle, the provision of telecommunications services does not require a licence. That being said, any person operating a public telecommunications network on a profit-oriented basis or providing a publicly available telecommunications service on a profit-oriented basis is required to notify the BNetzA without undue delay of their intention to provide, or of their ceasing to provide, services and of any changes in his undertaking. Such notification requires a written form (cf. Section 6 (1) TKG).

A notification does not suffice, however, where applicable provisions require an express authorisation for carrying out other commercial activities.

5.3.7. **Domicile Restrictions Preventing the Operation of Certain Telecommunications Activities by Non-Domiciled Entities**. From a telecommunications law perspective, there is no requirement for a provider of telecommunications services to be domiciled in Germany prior to, or during, the

provision of services. However, some provisions require the provision of an address for service in Germany of an authorised agent (for example Section 45p (1) No. 2 TKG). Advice should always be sought from a tax perspective.

5.3.8. **Existence of Relevant Interconnection/Roaming Regulations**. Every public telecommunications network operator is required, upon request, to make an interconnection offer to other public telecommunications network operators in order to secure user communication, the provision of telecommunications services and service interoperability throughout the European Union (cf. Section 16 TKG). The BNetzA has the power to impose obligations, upon request, on public telecommunications network operators that control access to end-users and do not have significant market power to interconnect to their networks with those of other public telecommunications network operators (cf. Section 18 (1) TKG).

In order to promote sustainable competition in the retail market, the BNetzA can require public telecommunications network operators controlling access to endusers not to treat other public telecommunications network operators differently without objectively justifiable reasons (cf. Section 18 (2) TKG).

Furthermore, the BNetzA has the power to require public telecommunications network operators with significant market power to create the necessary prerequisites for the interoperability of end-to-end communication, including the provision of facilities for intelligent network services and roaming (enabling the use of other operators' mobile networks outside the coverage area of

the requesting mobile operator, for the requesting operator's end-users) (cf. Section 21 (2) No. 4 TKG).

5.3.9. **Telecommunication Laws and Regulations Affecting Consumers**. Specific obligations relating to customer protection include:-

(a) The requirement to include certain minimum terms in contracts with consumers and other end-users (Section 43a TKG) The initial minimum contract term of a contract with a consumer may not exceed 24 months (Section 43b TKG).

(b) The obligation to provide to subscribers itemised billing upon request free of charge (Section 45e TKG) The obligation to take into account the interests of disabled end-users (Section 45 TKG).

(c) The availability of number portability to all subscribers (Section 46 TKG).

5.3.10. **Regulatory Taxes and Fees**. On the basis of the TKG, the following regulations pertaining to costs of procedures at the BNetzA have been adopted:-

(a) FGebV, which relates to fees in connection with spectrum assignment.

(b) TNGebV, which relates to fees in connection with the allocation of numbers.

(c) TKGebV, which relates to various fees in connection with:-

(i) Dialing programs via value added service numbers The administration of satellite systems.

(ii) The assignment of rights of way.

5.3.11. **Key Sanctions and Penalties in the Case of Contravention of Telecommunications Laws and Regulations**. The TKG provides for various measures which are at the BNetzA's disposal to enforce the applicable telecommunications regulations. These measures include formal information requests, investigations, seizures and the prohibition of business operations.

Breaches of the TKG can also trigger penalties. In general, the TKG distinguishes between Penal Provisions (Strafvorschriften) (cf. Section 148 TKG) and Administrative Fines Provisions (Bußgeldvorschriften) (cf. Section 149 TKG). The penalties range from fines between EUR 10,000 to EUR 500,000 (eg for the unauthorised use of a frequency). Other violations can trigger criminal liability which can lead to fines or imprisonment of up to two years (eg for illegal eavesdropping). In addition, pursuant to Section 206 German Criminal Code (Strafgesetzbuch - StGB), violations of telecommunications secrecy can be punished with a fine or imprisonment of up to five years.

Table No. 9 : Comparison of Indian Licensing Framework with Germany.

PARAMETERs	**INDIA**	**GERMANY**
LAW	Indian telecom law is based on the Indian	Provisions relating to the regulation of telecommunications are found in The

	Telegraph Act, 1885 which gives the government the power to regulate the use of telegraphs in India. Based on this statute, the government has issued regulations for various types of licenses – universal access, national long distance, international long distance, internet services, virtual network operators, etc. In addition, Indian Wireless Telegraph Act, 1933 contains certain regulation relating to wireless telegraphy The Telecom Regulatory Authority of India (TRAI) has been set up under	German Telecommunications Act (*Telekommunikationsgesetz* - TKG) and various other regulations. These include: • Telecommunications Surveillance Regulation (Telekommunikations-Überwachungsverordnung - TKÜV) • Frequency Fee Regulation (Frequenzgebührenverordnung - FGebV) • Frequency Usage Contribution Regulation (Frequenznutzungsbeitragsverordnung - FBeitrV) • Frequency Protection Contribution Regulation (Frequenzschutzbeitragsverordnung - FSBeitrV) • Telecommunications Number Charges Regulation (Telekommunikations-

	the Telecom Regulatory Authority of India Act, 1997. Some regulations are also issued by the TRAI including, for example, 'do not call' regulations and interconnection rules. The Information Technology Act, 2000 has indirect application to some telecom and internet related issues, particularly surveillance rights of the Government.	Nummerngebührenverordnung - TNGebV) • TKG EMVG FuAG Transfer Regulation (TKG-EMVG-FuAG-Übertragungsverordnung-TKEMVFuAÜbertrV) • Telecommunications Numbering Regulation (Telekommunikationsnummerierungsverordnung - TNV) • Telecommunications Emergency Call Regulation (Telekommunikations-Notrufverordnung - TNotrufV) • Telecommunications Transparency Regulation (Telekommunikations-Transparenzverordnung - TKTransparenzV)
LICENSING BODY	DOT	Federal Network Agency for Electricity, Gas, Telecommunications, Post and Railway (*Bundesnetzagentur* - BNetzA)

LICENSING FRAMEWORK	1. All the regulated services require licences from the DoT. 2.All telecom services have to be provided by Indian incorporated entities. Such services cannot be provided by foreign domiciled entities. International bandwidth can be sold and billed to customers at the foreign end of such connectivity but selling without a licence to customers at the domestic end is likely to violate applicable law.	As a matter of principle, the provision of telecommunications services does not require a licence. That being said, any person operating a public telecommunications network on a profit-oriented basis or providing a publicly available telecommunications service on a profit-oriented basis is required to notify the BNetzA without undue delay of their intention to provide, or of their ceasing to provide, services and of any changes in his undertaking. Such notification requires a written form (cf. Section 6 (1) TKG). A notification does not suffice, however, where applicable provisions require an express authorisation for carrying out other commercial activities. 2. From a telecommunications law perspective, there is no requirement for a provider of telecommunications services to be domiciled in Germany

		prior to, or during, the provision of services. However, some provisions require the provision of an address for service in Germany of an authorised agent (for example Section 45p (1) No. 2 TKG). Advice should always be sought from a tax perspective.
LICENSE FEES AND TAXES	Most telecom service providers have to pay a license fee, which is 8% of their "adjusted gross revenue". This does not include spectrum fees which are payable separately based on auctions conducted. This does not apply to Other Service Providers and Telemarketers. Goods and Services tax is generally applicable on telecom services at a rate of 18%.	On the basis of the TKG, the following regulations pertaining to costs of procedures at the BNetzA have been adopted: • FGebV, which relates to fees in connection with spectrum assignment • TNGebV, which relates to fees in connection with the allocation of numbers • TKGebV, which relates to various fees in connection with: o Dialing programs via value added service numbers o The administration of

		satellite systems o The assignment of rights of way

5.4. **China**.

5.4.1. **Overview of Legal Landscape**. The telecoms sector in the People's Republic of China (PRC or China) is heavily regulated. The provision of telecommunications services in the PRC is subject to a complex licensing regime depending on the type(s) of telecoms services offered. Any entity or individual who has not obtained the relevant telecoms operating licence is prohibited from providing such telecoms services.

Importantly, the categorisation of services which fall within the scope of the licensing regime is particularly wide and covers traditional telecommunication service offerings, as well as extending to other types of technologies and services provided via the Internet.

5.4.2. **Key Telecommunications Laws, Regulations and Policies**. The PRC Telecommunications Regulations (the “Telecoms Regulations”), first issued by the State Council on 25 September 2000 (and subsequently revised on 29 July 2014 and 6 February 2016), covers licensing, fee collection, interconnectivity, operation and regulation of telecoms services in the Prc.

The Classified Catalogue of Telecommunications Services (the "Telecoms Catalogue") (effective from 1 March 2016) sets out the specifics and sub-categories of services that are regulated under the telecoms licensing regime. The licensing requirements and application process differ depending on the type(s) of licences required.

The Administrative Measures for the Licensing of Telecommunication Business (effective from 1 September 2017) further sets out the eligibility criteria for applying a telecoms licence.

5.4.3. **Regulatory Bodies or Authorities**. The Ministry of Industry and Information Technology (MIIT) is the primary telecoms regulatory body in China. The main responsibilities of MIIT in respect of the telecoms industry include:-

(a) Formulating plans, policies, laws, regulations, and technical criteria for the information and telecoms industry Managing public information and the telecoms network, in addition to the Internet.

(b) Supervising the telecoms and information services market.

(c) Coordinating with other government departments to formulate policies and standards for telecoms service fees allocating and managing radio frequency spectrum resources.

(d) Overseeing the security of the telecoms network.

5.4.4. **Types of Telecommunications Activities and/or Persons which are Subject to Legal and Regulatory Requirements**. Telecoms business activities in China are divided into Basic Telecom Services ("BTS") and Value-added Telecom Services ("VATS"). The Telecoms Catalogue sets out the relevant regulated services that fall within the different categories of BTS and VATS.

BTS refers to the business of providing public network infrastructure, public data transmission and basic voice communications services. VATS refers to the telecoms and information services provided through public network infrastructure.

Each of BTS and VATS is further divided into a Category 1 and a Category 2 under the Telecoms Catalogue. Category 1 services (whether BTS or VATS) are more heavily regulated than Category 2 services, the reason being Category 1 services generally have more national economic or social impacts.

It is worth noting that where a reseller purchases cellular mobile communications services from a BTS provider (who owns a mobile network), and repackages such services under its own brand and sells such services to end users, such activity will be captured by the VATS licensing regime. In other words, such reseller will require a VATS licence.

5.4.5. **Overview of Consents, Licences and Authorisations Required Prior to the Commencement of Telecommunications Activities**. In general, an entity must obtain a telecoms operation licence in order to engage in telecoms business

activities. The holder of a telecoms licence is only permitted to carry out the activities specified in the licence.

VATS licences are further subdivided into single province licences and cross-provincial licences. Single province licences are issued by the relevant local authorities to service providers that are only providing regulated services within a single province, municipality or autonomous region. Cross-provincial licences, on the other hand, cover the provision of nationwide regulated services, and are issued by the MIIT.

A BTS licence is valid for either five or ten years (depending on the type of telecom service involved) and a VATS licence is valid for five years.

Telecoms operators must also meet the minimum registered capital requirements in order to be granted licences. For BTS operators, the minimum registered capital is RMB 100 million for single province providers and RMB 1 billion for nationwide providers. For VATS operators, the minimum registered capital is RMB 1 million for single province providers and RMB 10 million for nationwide providers.

5.4.6. **Domicile Restrictions Preventing the Operation of Certain Telecommunications Activities by Non-Domiciled Entities**. An entity is required to have a permanent establishment in China prior to commencing the provision of telecoms services. Foreign investors may only operate limited types of telecoms services in China.

Generally speaking, foreign investment is subject to shareholding restrictions. Foreign ownership limits for BTS is 49% for BTS and 50% for VATS. However, in practice, this is much more restrictive than the rules would suggest.

Nevertheless, some Hong Kong and Macau investors, although technically treated as foreign investors by Chinese authorities, have been granted a VATS licence due to their special eligibility granted under the Closer Economic Partnership Agreements entered into between China and Hong Kong / Macau.

5.4.7. **Existence of Relevant Interconnection/Roaming Regulations**. Under the Telecoms Regulations, interconnection of telecoms networks should be effected on the basis of the principles of technical feasibility, economic sense, fairness, impartiality and mutual complementation.

Leading telecoms service operators, which refer to operators that control vital telecoms infrastructure, have a relatively large share of the telecoms market and can materially influence the market entry of other telecoms business operators, may not refuse interconnection requests from other telecoms business operators and operators of dedicated networks.

5.4.8. **Telecommunication Laws and Regulations Affecting Consumers**. The Telecoms Regulations do not differentiate between the provision of services to businesses and consumers.

Where the services are provided to consumers, providers should be mindful that the PRC Law on the Protection of Consumer Rights and Interests will also apply. For example, business operators are required to disclose all information related to the services to consumers, and consumers have the right to privacy and to have their personal information protected when receiving a service.

5.4.9. **Regulatory Taxes and Fees**. Application for a BTS or VATS licence is free of charge. The telecommunications industry is subject to Value Added Tax. The tax rate for BTS is 9% and 6% for VATS. The telecommunications industry, like most other industries, is also subject to administrative charges, namely an education fee of 3% and a local education surcharge of 2%.

5.4.10. **Key Sanctions And Penalties in the Case of Contravention of Telecommunications Laws and Regulations**. In the first quarter of each year, telecoms licence holders must submit their annual operation information to the MIIT and/or the relevant local authorities through an online platform. The telecom authorities will then perform a random inspection on selected telecoms operators.

The telecom authorities maintain a list "poorly performed" and "dishonest" companies and such list is made available to the public. Telecom operators with less serious violations will go on the "poorly performed" list, and might attract administrative penalties.

Telecom operators with more serious violations will be listed as "dishonest'. By way of an example, operating regulated telecoms services without licences or providing regulated services beyond the permitted scope will be considered as serious violations.

Sanctions include revocation of telecoms licences, shutdown of business and blacklisted by the authorities for (at least) three years. The biggest risk of all is shutdown of services, which may also bring significant contractual liabilities to such telecom operator.

Other forms of sanctions include rectification orders, warnings, fines, confiscation of illegal gains or criminal liabilities. While the authorities have the ability to levy fines against organisations who are operating without a licence, this method is not commonly used by the China authorities (or if any fines are levied these are seldom disclosed publicly).

Table No. 10 : Comparison of Indian and China Licensing Framework.

PARAMETERS	INDIA	CHINA
LAW	Indian telecom law is based on the Indian Telegraph Act, 1885 which gives the government the power to regulate the use of telegraphs in India. Based on this statute, the government has issued regulations for various types of	The PRC Telecommunications Regulations (the "Telecoms Regulations"), first issued by the State Council on 25 September 2000 (and subsequently revised on 29 July 2014 and 6 February 2016), covers licensing, fee collection,

	licenses – universal access, national long distance, international long distance, internet services, virtual network operators, etc. In addition, Indian Wireless Telegraph Act, 1933 contains certain regulation relating to wireless telegraphy The Telecom Regulatory Authority of India (TRAI) has been set up under the Telecom Regulatory Authority of India Act, 1997. Some regulations are also issued by the TRAI including, for example, 'do not call' regulations and interconnection rules. The Information Technology Act, 2000 has indirect application to some telecom and internet related issues, particularly surveillance rights of the Government. The Cable Television Networks (Regulation) Act, 1995 regulates	interconnectivity, operation and regulation of telecoms services in the Prc. The Classified Catalogue of Telecommunications Services (the "Telecoms Catalogue") (effective from 1 March 2016) sets out the specifics and sub-categories of services that are regulated under the telecoms licensing regime. The licensing requirements and application process differ depending on the type(s) of licences required. The Administrative Measures for the Licensing of Telecommunication Business (effective from 1 September 2017) further sets out the eligibility criteria for applying a telecoms licence.

	cable television.	
LICENSING BODY	The Department of Telecommunications (DoT) - which is a ministry of the Government of India - is the licensing authority. It sets out the regulations permitting the grant of licences to telecom service providers. It also issues notifications from time to time on telecom laws. The TRAI is empowered to issue regulations in certain areas including and provide recommendations to the DoT in other areas including licensing . It is a somewhat unique arrangement where two regulators are involved in the regulation of telecoms. .	The Ministry of Industry and Information Technology (MIIT) is the primary telecoms regulatory body in China. The main responsibilities of MIIT in respect of the telecoms industry include: • Formulating plans, policies, laws, regulations, and technical criteria for the information and telecoms industry • Managing public information and the telecoms network, in addition to the Internet • Supervising the telecoms and information services market • Coordinating with other government departments to formulate policies and standards for telecoms

		service fees • Allocating and managing radio frequency spectrum resources • Overseeing the security of the telecoms network
FRAMEWORK	India is a heavily regulated telecoms market with telecoms service providers being required to obtain a licence in order to provide services. 2. Foreign investment caps have recently been removed and 100% foreign ownership is permitted. A foreign investment approval has to be obtained for foreign investment above 49 There are also restrictions on participation of foreign nationals in the management of telecoms companies. All telecom services have to be provided by Indian incorporated entities. Such	In general, an entity must obtain a telecoms operation licence in order to engage in telecoms business activities. The holder of a telecoms licence is only permitted to carry out the activities specified in the licence. VATS licences are further subdivided into single province licences and cross-provincial licences. Single province licences are issued by the relevant local authorities to service providers that are only providing regulated services within a single province, municipality or autonomous region. Cross-provincial licences, on the

	services cannot be provided by foreign domiciled entities. International bandwidth can be sold and billed to customers at the foreign end of such connectivity but selling without a licence to customers at the domestic end is likely to violate applicable law. 3. Penalties for breach of telecom licences are based more on damages mentioned in licence agreements with telecom providers. For example, a universal access or national long distance telecom operator would be liable for damages of up to INR 500 million. Further, telecom providers are required to provide bank guarantees. On violation of licence conditions, the bank guarantees can be invoked by the DoT.	other hand, cover the provision of nationwide regulated services, and are issued by the MIIT. A BTS licence is valid for either five or ten years (depending on the type of telecom service involved) and a VATS licence is valid for five years. Telecoms operators must also meet the minimum registered capital requirements in order to be granted licences. For BTS operators, the minimum registered capital is RMB 100 million for single province providers and RMB 1 billion for nationwide providers. For VATS operators, the minimum registered capital is RMB 1 million for single province providers and RMB 10 million for nationwide providers. An entity is required to have a permanent establishment in China prior to commencing the provision

		of telecoms services. Foreign investors may only operate limited types of telecoms services in China. Generally speaking, foreign investment is subject to shareholding restrictions. Foreign ownership limits for BTS is 49% for BTS and 50% for VATS. However, in practice, this is much more restrictive than the rules would suggest. Nevertheless, some Hong Kong and Macau investors, although technically treated as foreign investors by Chinese authorities, have been granted a VATS licence due to their special eligibility granted under the Closer Economic Partnership Agreements entered into between China and Hong Kong / Macau.
LICENSE FEES AND TAXES	Most telecom service providers have to pay a license fee, which is	Application for a BTS or VATS licence is free of charge.

	8% of their "adjusted gross revenue". This does not include spectrum fees which are payable separately based on auctions conducted. This does not apply to Other Service Providers and Telemarketers. Goods and Services tax is generally applicable on telecom services at a rate of 18%	The telecommunications industry is subject to Value Added Tax. The tax rate for BTS is 9% and 6% for VATS. The telecommunications industry, like most other industries, is also subject to administrative charges, namely an education fee of 3% and a local education surcharge of 2%.

CHAPTER 6

STAKEHOLDERS' PERCEPTION AND ANALYSIS OF DATA

This chapter provides an examination of the views expressed by various stakeholders.

6.1. Introduction:

Telecom sector has progressed by leaps and bounds over three decades. The privatization and de monopolization of the sector started with the granting of the licenses of various telecom services in 1990s.

A large number of the factors have contributed to the phenomenal growth like technological advancements, regulatory mechanism, judicial interventions and licensing framework.

In order to understand the perspective of the stakeholders with respect to the contribution of the licensing framework in the telecom growth, a survey questionnaire consisting of 18 questions was prepared.

6.2. Details of the Respondents:

The questionnaire was distributed to the functionaries of the following stakeholders:

- DOT (Department of telecom)- the policy maker and licensor
- TRAI (Telecom regulatory of India)- the regulator

- TSPs (Telecom service providers)- the licensees who serve as the link between licensor and the subscribers.

It was sent electronically to 35 senior officers of DOT, TRAI and service providers who handle/ have handled the subject of telecom licensing in their respective work area. Initial three questions were related to the individual respondents and it was responded by 30 officers.

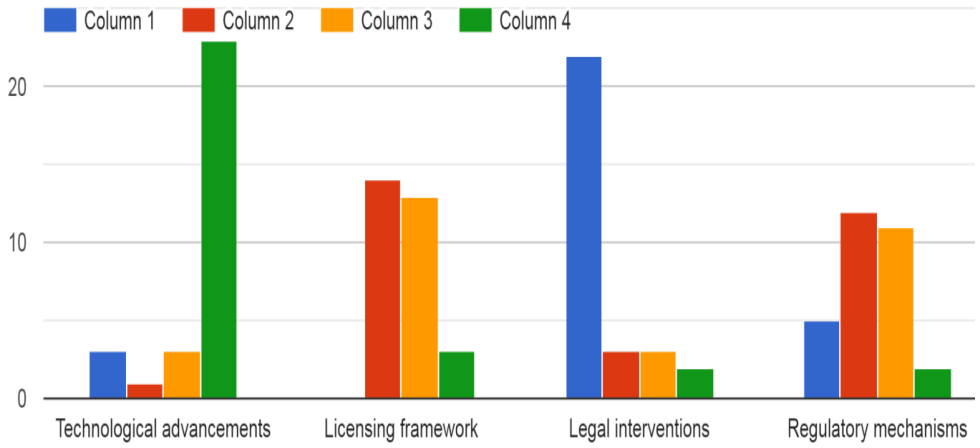
Out of 30 respondents, 23 have registered their names and 7 preferred to remain anonymous. Since almost 80 percent respondents have identified themselves, it can be safely concluded that data is reliable and authentic.

Out of 30 respondents, 25 respondents have given their designation. From the data, it can be drawn that the majority of respondents are senior officers- Director and above in DOT, TRAI and TSPs, who have a strong say in either policy making/ regulation/ licensing or implementation. As the responses are made by senior, experienced functionaries, it can safely be concluded that their responses are relevant and germane to the research.

6.3. The respondents were asked to respond to a few issues related to licensing framework. The questions, responses and analysis are as follows:

(a) **Factors contributing to the growth of the sector**

Q. 4. On a scale of 1 to 4, 4 being the most important and 1 being the least important, what in your opinion has contributed most to the growth of Tel... don't select more than one response per column.



Analysis: More than 70% respondents feel technological advancements, have been the most important driving force behind the telecom revolution. The growth is suitably supported by evolving licensing framework and the regulatory mechanism (13.3% opine that licensing framework has a role and 6.3% believe that regulatory mechanism have played a part towards the growth). Secondary research also supports this. Unified licensing was brought to support digital convergence. VoLTE Technology allowed 4G spectrum to be used for mobile telephony.

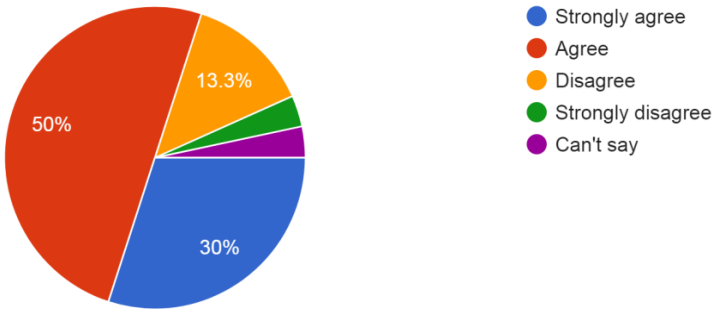
Almost 70% respondents feel that legal institutions do not have a major role towards the growth rather it has been a stumbling block in the growth of Telcom sector in the country as indicated by secondary data. Too much litigation

and legal interventions pulls back the sector growth. Cancellation of licenses by Supreme Court, litigation on the interpretation of telecom revenue for the purpose of license fees computation are a few issues which can be highlighted here and is indirectly supported by the survey. These led to uncertainty, huge amount of money getting stuck, policy paralysis and volatile telecom market. Legal intervention mechanism, thus needs to be improved.

(b) **Contribution of licensing framework**

Respondents were asked to give their opinion on how far the framework has contributed to the growth of the sector.

Q. 5. Licensing Framework has contributed to the growth of Indian Telecom Sector.
30 responses



Analysis: Total 80% respondents feel that the framework has contributed to the growth of the sector out of which 30% strongly agree with the statement. Only 13 percent feel that it has not contributed well.

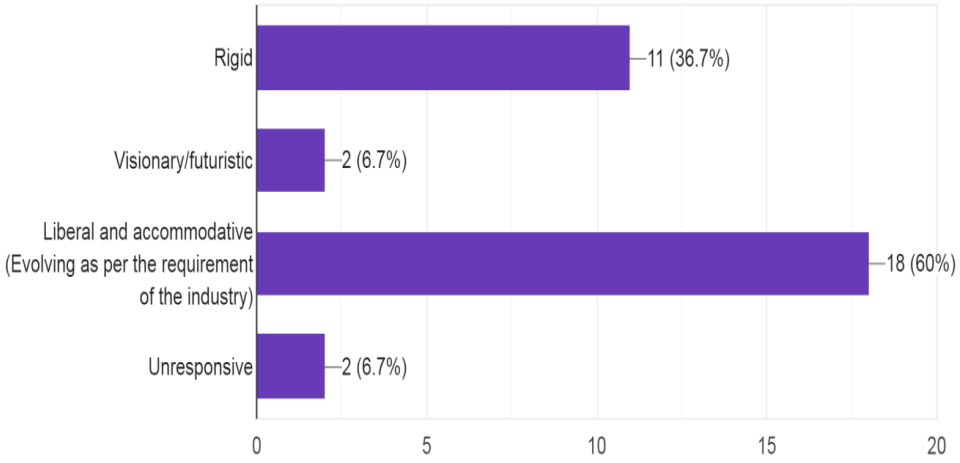
This survey indicates that respondents across the sector are of the same opinion that licensing framework has been a great contributor to the growth of the

sector. As elaborated in previous chapters, the framework has evolved as per the needs of the technological advancements and subscribers preferences. For example, UL catered to the need of digital convergence and led to the exponential growth.

(c) **Perception about the framework:**

Q. 6. What is your perception about the Indian Telecom Licensing Framework? You can choose multiple answers.

30 responses



Analysis: 60 percent feel that the framework is liberal , accommodative and evolving as per the requirement of the industry. While 36.7% are of the opinion that it is rigid. These responses can be analyzed in the following manner:

Why it is called rigid – Licensing frame work works under the overall umbrella of Indian Telegraph Act 1885, where the terminology of the telegraph is used to administer the internet and modern cellular technology. Unless something

is not specifically permitted / licensed is prohibited meaning that telecom companies have to think long and hard before deploying new technologies or take calculated risks that these new technologies fall within what is permitted under existing regulations / frame work.

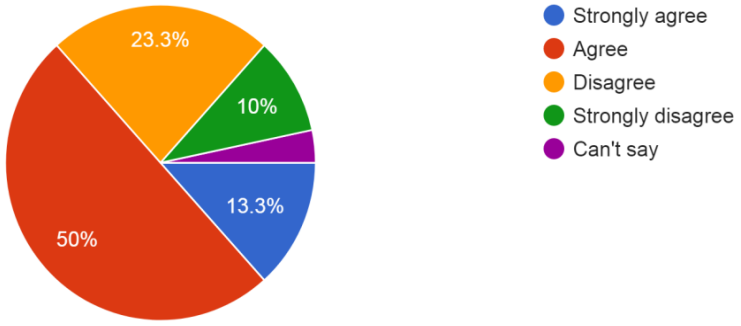
Why it is liberal and accommodative – it has changed and evolved over the period of three decades as per the requirement of the technological advancements, needs of the industry and national policies.

Responses towards other attributes are miniscule.

(d) **Licensing granting procedure is simple -**

Q. 7. License granting procedure is simple in the Indian Telecom Sector ?

30 responses



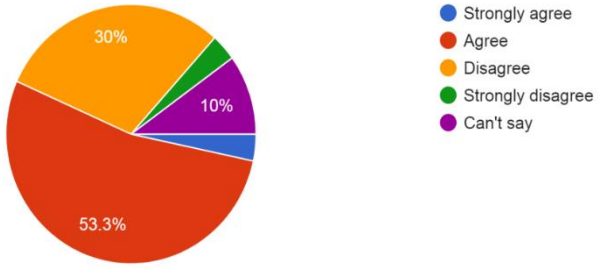
Analysis: 63.3 percent agree (out of this 13.3 % strongly agree) that the procedure is simple, while the remaining do not agree with the statement. As

majority feels that Granting of Licences is a simple process, licensing procedures as such do not need any overhauling at present.

(e) **Flexibility and efficient utilisation of resources –**

Q. 8. In the current licensing regime , there is enough flexibility and efficient utilization of resources keeping in mind the technological developments/advancements.

30 responses

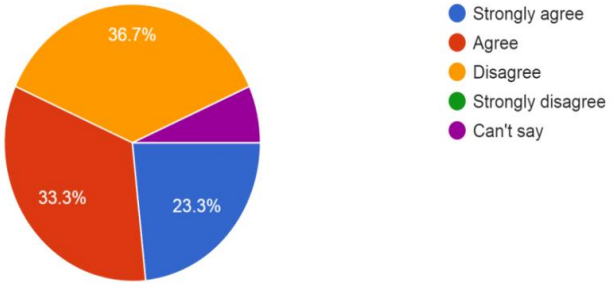


Analysis: 53.3% agree with the statement that there is enough flexibility and efficient utilization of resources keeping in mind the technological developments/ advancements, 30% however feels otherwise. While the majority population feels that the relevant procedures are in place to ensure flexibility and proper utilization of resources as per the need of the technological advancements. However, there is some scope for further bringing in greater flexibility in this area.

(f) **No-worse off level playing field and easy entry for all the operators –**

Q. 9. The present licensing regime ensures No-worse off level playing field and easy entry for all the operators.

30 responses

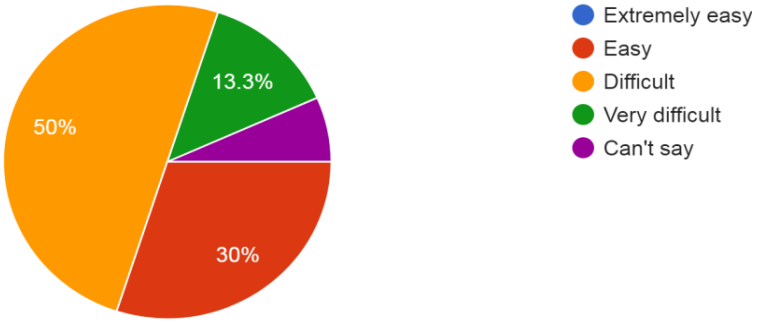


Analysis: 57 **%** of the respondents feel that the regime ensures 'no worse off playing field' and provides for an easy entry for all the operators. A significant 36% have responded in the negative.A miniscule percentage has given no opinion. It appears that majority population feels that the relevant procedures are in place however there is some scope for further corrections in this area.

(g) **Procedure of Merger and Transfer of Telecom Licenses -**

Q. 10. The procedure of Merger and Transfer of Telecom Licenses is :

30 responses

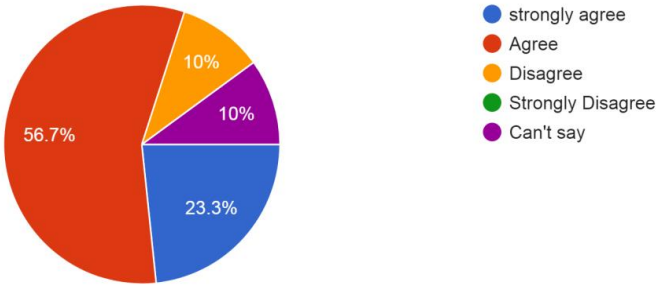


Analysis: only 30% respondent have found the procedure of merger and transfer easy, 50 percent have rated it as difficult and 13.3% have rated it as very difficult. A miniscule population have given no opinion. It is clear from the responses that respondents across the sector are finding merger and acquisition procedure difficult and there is a need to make it simpler.

(h) **Un-bundling of different layers through differential licensing -**

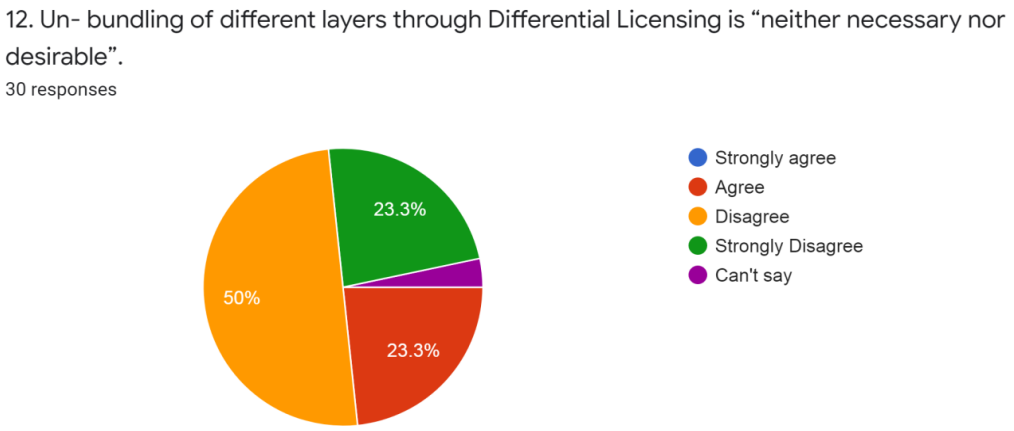
Q. 11. Un- bundling of different layers through differential licensing will act as a catalyst for Investmer & innovation and promote ease of doing business.

30 responses



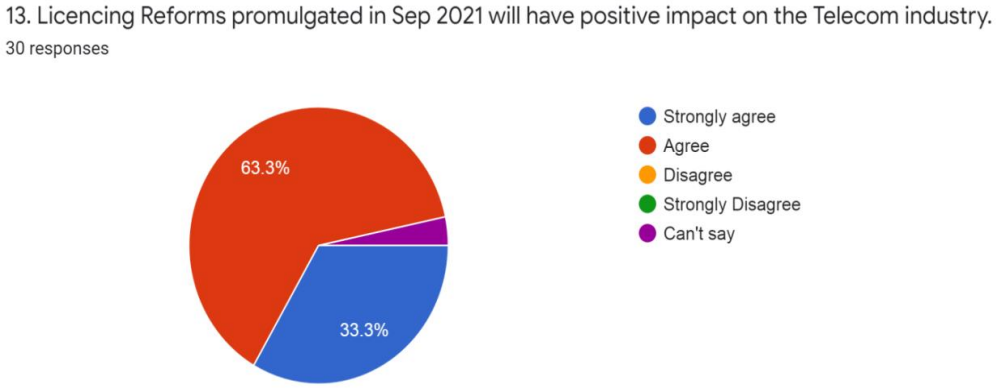
Analysis: 23.3% strongly agree that unbundling of different layers through differential licensing will act as a catalyst for investment & innovation and promote ease of doing business, 56.7% agree with the statement and only 10% disagree with the view. It is clear from the responses that the licensing framework should incorporate modifications in the UL regime to bring unbundling of different layers.

(j) **Whether un-bundling of different layers through differential Licensing is necessary-**



Analysis: 50 percent disagree and 23.3 percent strongly disagree with the statement that unbundling is neither necessary nor desirable. 23.3% agree with this view that it’s neither desirable nor necessary. The respondents across the sector believe that unbundling of the different layers is necessary and desirable.

(j) **Licensing Reforms of September 2021 –**

Q. 

Analysis: 33.3% strongly agree and 63.3 % agree with the view that licensing reforms of Sept’21 will have positive impact on the industry. A

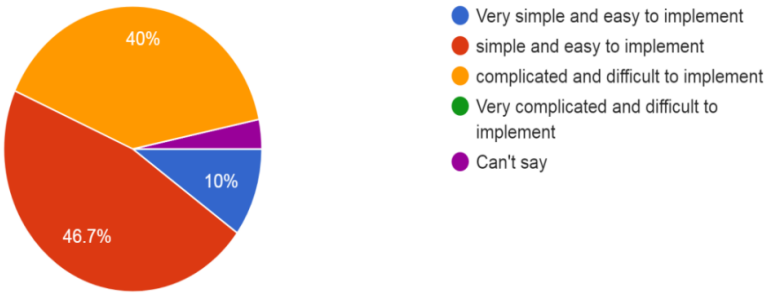
negligible population has registered no opinion. The respondents across the sector have welcoming and optimistic attitude towards the recent reforms.

Four years' Moratorium would encourage companies to invest in customer service and new technology. Together, these signal the return to an investor-friendly climate. These measures would pave the way for large scale investments into the sector, including for 5G technology deployment, and generate more jobs. Nevertheless, moratorium on AGR dues and spectrum dues would only provide temporary relief with these deferred dues to be payable eventually with interest. All the stakeholders involved need to find a way to develop a sustainable tariff policy.

(k) **License Fees Assessment Process –**

Q. 14. The current License Fees assessment process is :

30 responses



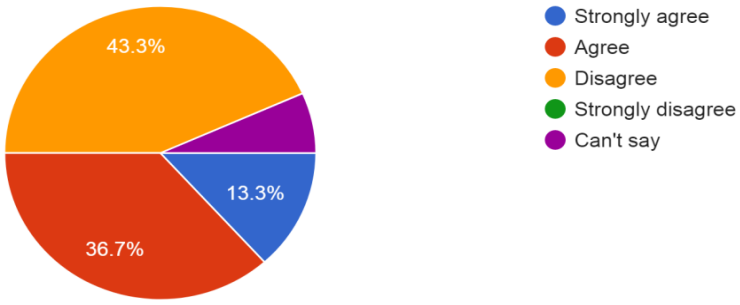
Analysis: 56.7% feel it is simple and easy to implement, (out of which 10% think that it is **very s**imple and easy) and 40% thinks that it is complicated and difficult to implement. Nobody said that it's **very** complicated and difficult to

implement. A miniscule population had no comments to offer. Majority's opinion that the process of assessment is simple and easy to implement was revalidated by a senior officer during an in depth interview. It was stated to be very simple based on standard items of deductions. There is not enough scope for self-interpretation (which perhaps might have caused ambiguity) . However, going by views of 40 percent population, the procedure perhaps has scope for further simplification and improvement.

(l) **License Fee Collection Mechanism –**

Q. 15. Present License Fee collection mechanism is Robust and Leak proof.

30 responses



Analysis: 50 % agree with the statement that present license fees collection mechanism is robust and leak proof,(out of which 13.3 % strongly agree with the statement) while 43.3% of the respondent disagree with this view. A very small percentage has offered no view on this issue. Thus majority population feels the system is robust and leak proof. This was validated by a senior functionary of the CCA office during interview. It was informed that license fee is deposited in PFMS through Bharat Kosh Portal. There are two

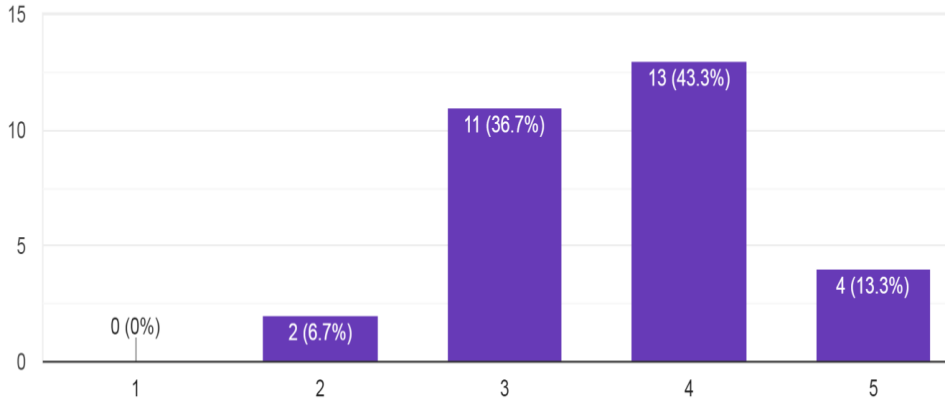
levels of checking at CCA offices to ensure that there is no chance of revenue leakage. The mechanism is absolutely leak proof.

However, going by the opinion of the 43.3% population, the license fee collection mechanism has scope for improvement and policy makers need to pay attention to this issue specially when Communication receipts (mainly license fee and SUC) account for almost 25 % of non-tax revenue of the government.

(m) **Performance of Department of Telecom as Licensor –**

Q. 16. On a scale of 5 (where 1 is poor and 5 is outstanding), please rank the role played/ performance of Department of Telecom as Licensor in the matter of Telecom Licensing.

30 responses



Analysis: on a scale of 1 to 5 where 1 is poor and 5 is outstanding, majority of the respondents, 80 % have rated it in the range of 3 and 4**.**It can be concluded that DOT as licensor has played its role satisfactorily.

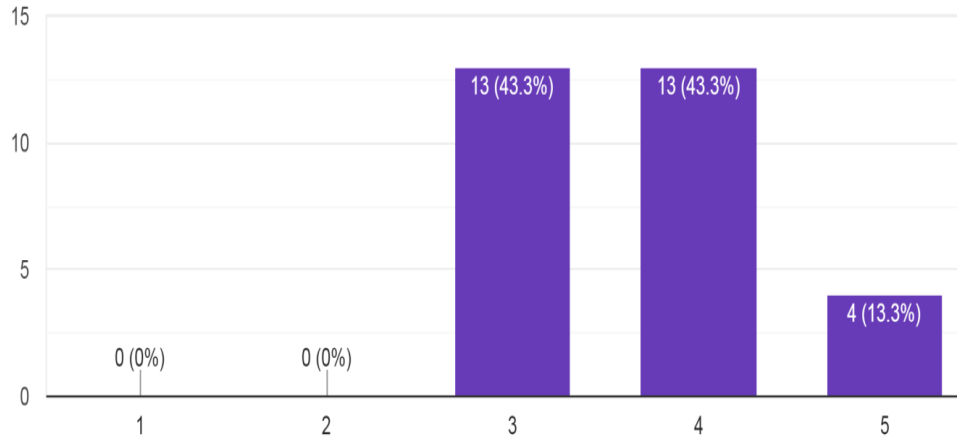
Secondary literature and the interview conducted with senior functionaries indicate that DoT has been a benevolent licensor. It is pertinent to mention here a few acts of benevolence –

- Migration package of the year 1999
- Reforms of September 2021
- Returning of bank guarantees of Rs. 9000 crores to ease TSPs financial burden as part of relief package. The return of bank guarantee will add to the banks' capital pool and allow TSPs to access more loans to invest network.

(n) **Performance of TRAI as Regulator -**

Q. 17. On a scale of 5 (where 1 is poor and 5 is outstanding) please rank the role played/ performance by TRAI as Regulator in the matter of Telecom Licensing.

30 responses



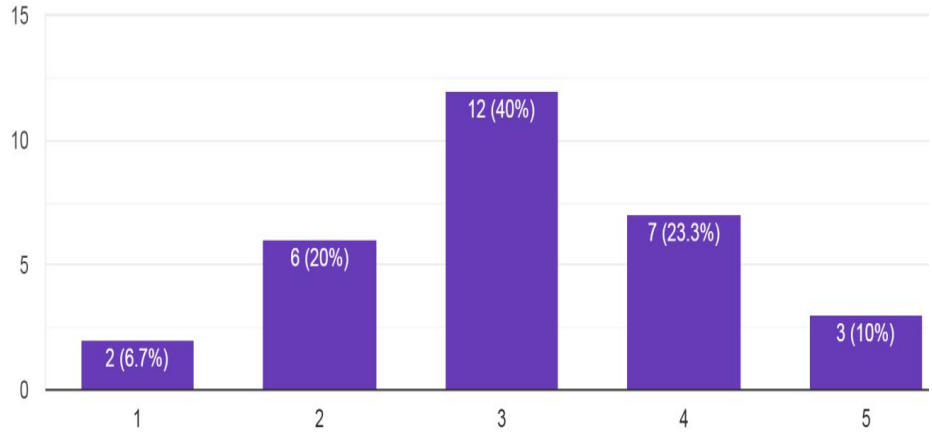
Analysis: 86.6 % have given the rating of 3 and 4 on the scale of 5 and 13 .3 % have rated it as perfect 5. No one has given it 1 and 2 rating**.** Majority

have rated TRAI in the range of good and very good. Thus it can be concluded that TRAI has played its role satisfactorily in the matters of telecom licensing. However, as indicated in the previous chapters, the role of TRAI in licensing matter is only recommendatory. Despite a thorough consultation process, the final recommendation can be rejected by the licensor without assigning any reason. Secondly, its regulatory powers are toothless.

(o) **Performance of TDSAT as Adjudicator –**

Q. 18. On a scale of 5 (where 1 is poor and 5 is outstanding) please rank the role played/ performance by TDSAT as Adjudicator in the matters of Telecom Licensing.

30 responses



Analysis: 26% respondents have given it a rating of 1 and 2, almost 63 % respondents have rated it 3 and 4 and only 10 % have given it a rating of 5. TDSAT work is more or less satisfactory, however there is a scope for further improvement.

During the interview, it was stated by an officer that Licensor and licensee are locked in numerous court cases in TDSAT and lawyers are having the last laugh. A mechanism similar to *Vivaad se Vishwas* (VSV) might be a good way to reduce the litigation. An out of court settlement is required to reduce the litigation burden on telecom industry. Judicial processes have come to dominate the regulatory space. A senior functionary expressed an anguish saying that TDSAT in reality has turned into a time wasting mechanism since all its decisions are over turned by higher courts after a certain gap of time. Secondly, sometimes the decisions are biased in favour of TSPs.

CHAPTER 7

CONCLUSIONS AND RECOMMENDATIONS

7.1. The survey as elaborated in the previous chapter was undertaken to assess the views of stakeholders about the licensing framework and it was followed by in- depth interviews with a few respondents.

The sample size of 30 is small because this subject is a specialised area of work which is handled by a small number of functionaries across the telecom spectrum. The reliability of the sample can be assumed as most of the functionaries have identified themselves by name, designation and the organisation where they work.

It can be concluded from the survey that the licensing framework has contributed to the growth of the telecom sector. It was found that it is liberal and accommodative and is evolving as per the need of the sector. There is also scope for further simplification of the license granting procedure as a few respondents indicated it to be rigid. It was also found that merger and acquisition procedure is required to be corrected/ made easy.

The license fees assessment and collection procedure was found easy and strong respectively though there is further scope for improvement as per the survey.

The recent reforms are very welcoming across the spectrum as per the findings.

It was also found that unbundling of different layers through differential licensing is welcomed by almost one and all and is the need of the hour.

The survey indicated that performance of DOT and TRAI was more satisfactory than TDSAT.

7.2. **Strengths and weaknesses of the Indian Telecom licensing framework**.

On the basis of the survey, interview and secondary data, the strong and weak points of the framework can be summarized as follows. Let us start with the strong points:

(a) **Ever Evolving**. Since its inception in 90s, Indian licensing regime has been evolving keeping in view the technological developments, needs of the industry and aspirations of the subscribers.

(b) **Incorporating best practices**: With respect to **'Best Practice for Licensing Process'** WTO General Agreement on Trade in Services (GATS) and Annex on Telecommunications mentions:

(i) "Where a telecommunications license is required, the following shall be made publicly available: *A*ll the licensing criteria and the period of time normally required to reach a decision concerning an application for a license; and the terms and conditions of all individual licenses."

(ii) The reasons for the denial of a license will be made known to the applicant on request.

(iii) Any procedures for the allocation and use of scarce resources, including frequencies, numbers and rights of way, is carried out in an objective, timely, transparent and non-discriminatory manner.

(iv) The current state of allocated frequency bands are made publicly available.

Indian licensing framework scores 100 out of 100 on these parameters by virtue of having all the suggested best practices incorporated in entirety in its frame.

(c) Since the start of licensing in 90s, **three principles** have guided the policy makers:

(i) Coverage and penetration..

(ii) Revenue maximization.

(iii) National security.

Licensing framework has kept these principles in focus and as a result, it is very over encompassing, comprehensive and detailed one. It has protected the interests of the industry, consumers and the nation.

(d) **Easy to amend** the framework is guided by the policy and is amended by simple executive orders of the government. Lengthy procedures of the legislature are not required. Government has been a benevolent licensor as can be seen in national telecom policies over the years and subsequent licensing amendments. There is greater informality. Changes in policy, effectively are implemented through amendments to the license agreements. Regulation through license allows the government to by-pass many of the requirements, including the

obligation to lay new amendments before Parliament with without following any processes.

(e) **One nation- one license** under UL has simplified the processes and has taken care of the needs of convergence.

(f) **Automation**: Various licensing compliances and license fee payment facilities are available online. A revenue management software (RMS-SARAS) system for assessment of LF Revenue & SUC) is accordingly being implemented which would digitize the assessments, payments and accounting procedure of license fee.

(g) **Focus on Ease of Business**: Promoting "Ease of doing business" is essential for unhindered growth of the telecom sector and is amongst the priorities of the Government. A number of changes have been made in the framework to promote ease of doing telecom business. Measures like adoption of auction for the assignment of spectrum, permitting spectrum trading, spectrum sharing and liberalization of administratively assigned spectrum, Unified Licensing regime, Merger and Acquisition guidelines etc. have been guided by the principles of "ease of doing business".

7.3. **Weaknesses of the Framework**:-

(a) The combination of flexible and accommodative licensing and intense competition in the market for subscribers has resulted in India becoming the lowest priced telecom market in the world. This comes with a trade-off. The

quality of service has been a victim, with call drops finding mention in the Parliament as well.

(b) **Compliance burden-** compliance burden on licensees post issuance of license are quite heavy. The procedure for obtaining, submission and renewal of BGs is a cumbersome and costly proposition for smaller licensees.

(i) At present licensee have to submit various documents /statements regarding revenue and verification of deduction claim on quarterly basis. The larger TSPs have a dedicated team for accounting purposes whereas, small operators face difficulty in compliance due to limited resources.

(c) Rahul Matthan (2019) writes that the sector is governed by **a very old law** that was intended to regulate telegraphs at a time when the internet and all the other modern telecom technologies were not even contemplated. The terms are interpreted in a way which was not originally intended. The philosophy of wresting money out of words / phrases have led to ambiguity and various litigations .

(d) The sector is administered effectively by two regulators -DOT, TRAI with distinct but often two contradictory functions which are often being portrayed as being in opposition to each other. On the top there are independent regulators like CVC, CCI. This has made the framework over complicated.

(e) Without demarcation of jurisdiction, the existence of multiple regulators creates a risks of forum-shopping where a litigant gets to choose where to pursue his case usually to achieve a favourable outcome. (Economic Times).

(f) Constant changes in technology challenge the licensing regime. Telecom companies are constantly trying to exploit loopholes in the licensing conditions by deploying new technologies that were never envisaged by the regime.

(g) The telecom service licensing is synonym of de-monopolizing of the state. Anything which is not part of licensing framework is unregulated. This creates a unique problem. For example Blackberry was not a licensee hence government found it extremely difficult to access information from Blackberry subscribers.

(h) Similarly, over the top operators have flourished, creating a rich economy of applications that has been built upon the telecom infrastructure.

(j) The DOT follows no process of stakeholders' consultation nor provides any explanation while rejecting TRAI recommendations. Despite high quality of recommendations, government is not obliged to heed to its views. This has resulted in an inadequate and counterproductive frame work for expert choice. The relationship between various players in the telecom eco system – DOT, parents ministry, TRAI, TDSAT, Courts and Legislature is complex and opaque.

A few examples: The law empowers government i.e. DoT to issue licenses however the licenses should be in conformity with the policy directives of the Ministry of Communication & IT.The decision of the regulator are subject to judicial review by TDSAT which further can & often subject to be challenged before the High Court / Supreme Court.

7.4. **<u>Challenges for the framework</u>:**

- **Keeping pace with New Technology:**

As new technologies come, they have an impact of the regulation and licensing framework. Tension continues between incumbents who have invested in existing technology and new players who would like to use the new technology to provide services with greater efficiency. The framework needs to take care of the interests of both the parties.

- **Balancing policy directive, industry's interest and subscribers' aspirations:**

In the rapidly changing scenario, the licensing framework is required to balance policy directives of the government, financial interest of the telecom sector and users' aspiration to march ahead with world class services.

- **Multiple agencies are working in the Licensing framework**

DoT as licensor, spectrum management by WPC, technical regulation by TEC, dispute settlement by TDSAT, Tariff and interconnect issues by TRAI, security agencies, CVC, CBI, Competition Commission etc create a complicated scenario.

7.5. **Evaluation of Indian Licensing Regime**.

SATRC REPORT (2016) mentions that licensing regimes must ensure they facilitate rather than restrict growth in telecom services. It must provide businesses with flexibility and certainty required to invest in new and existing operations. Five key principles to effective licensing are therefore:

(a) **Service and Technology Neutrality**: Licensees should be allowed to offer a range of services using the most efficient technology and infrastructure.

(b) **Simplicity**: Move towards a consolidated licensing framework that requires operators to hold a minimum number of licenses and to be subject to a minimum number of different licensing processes.

(c) **Flexibility**: Operators should have the ability to respond to changes in the market quickly with a minimum amount of friction.

(d) **Certainty**: Licensees should be subject to clear and consistent license conditions. Where there is provision for discretion in setting or modifying license terms, regulators and ministers should ensure adequate consultation smooth transition.

(e) **Avoidance of Discrimination between Types of Licensees**: Governments should treat licensees on a consistent basis and ensure a level regulatory playing field.

With the help of analysis done about Indian licensing framework in previous chapters, survey responses in the previous pages, the report card of Indian licensing on these parameters can be prepared in the following manner:-

Table No. 11 : **Indian Licensing Framework –A Report Card**.

Principles	Indian licensing
Service and technology neutral	Yes
Simplicity	No
Flexibility	Yes
Certainty	Yes
Avoidance of discrimination between types of licensees.	Yes

7.6. Contribution of Licensing Framework in the Growth of the Telecom Sector in India.

As stated in previous paras, telecom in India was a state monopoly for a century. After 1994, licensing regime started when the government started giving licenses to private sector for providing telecom services in the country. It is significant to note that the licensing era unfolded slowly but consistently. As a result, the number of subscribers, tele density and telecom revenue kept growing positively.

Starting from a nascent market (that had a little over 5.81 million basic telephone connections in 1992, 14.5 million phone connections in 1997 and "telephone on demand" was an early policy goal) , India has grown to become second largest telecom market in the world, boasting of over 1.15 billion subscribers today. The increase in subscriptions has been nothing short of dramatic, on occasions touching 20 million in a month. In the first decade of the 21st century, subscribers grew at 33 per cent annually CCI report (2017).

The licensing regime has undergone several changes since liberalization to keep pace with technological change and market developments. The unified licensing (UL) regime, introduced in 2013, allowed all telecom services to be provided under one license. This facilitated economies of scope, i.e. the use of the same network for providing different services, creating efficiencies in the system(CCI Report).

There has been rapid transformation of the industry both in terms market structure, technology and consumer preferences. The dynamic nature of the industry and constantly evolving business interactions between and across industries have demanded licensing terms to be modified in the interest of the telecom industry and consumers.

Licensing framework has been very accommodative of such demands and aspirations. Transformation of regime from sector specific licensing to unified licensing , fixed license fees to revenue share formula, deletion of non-telecom revenue from adjusted gross revenue , staggered payment options of license fees etc are a few examples.

7.7. **Recommendations and Way Ahead** :

(a) Licensing framework should not only focus on three principles of tele density, revenue maximization and security but also pay equal attention to the quality of service. Frequent call drops and poor network needs to be addressed by the telecom authorities.

(b) The governing law Indian Telegraph Law is very old and needs to be reviewed for a new one to eliminate ambiguity and litigations.

(c) Ease of doing business should be the prime focus of the licensing regime. Too many licensing compliances hinder the pace of the industry. Government should review and simplify the procedures.

(d) The license fee collection mechanism- should be robust and leak proof. The government needs to review the system holistically and bring systemic changes in assessment and collection.

(e) Since the telecom sector is rapidly changing, the policy reforms and resultant changes in the licensing framework should have a time table like every 3 years policy review.

(f) The existence of so many legal cases related to licensing issues highlight the fact that there is complexity in the grievance redressal mechanism at DOT/ TRAI level. The government needs to review it in entirety.

(g) TDSAT should have branches in major metros to expedite the legal cases.

(h) The issue of multiple regulators should be addressed by the Government.

(j) DoT should take expert opinon before rejecting TRAIs much consulted expert advice.

Summing up:

The Telecom sector is the most rapidly changing sector due to technological advancements, fierce competition, mindful judiciary and political will. 'Despite uncertainties caused by factors as mentioned, the Indian Telecom industry is one of the fastest growing in the world, adding new customers at a rate that other countries find hard to match. And even with the rapid growth, customers in India still benefit from some of the lowest tariffs, and receive some of the most innovative products and services available anywhere.' Rahul Matthan (2019).

Licensing framework has responded actively to the changing needs of the sector. It has evolved over the years keeping in tune with technological pace, judicial decisions, security and most importantly the welfare of subscribers.

This is evident from the very fact that, over past 30 years, there has been four telecom policies- 1994, 1999, 2012, and 2018 and with every policy announcements, framework is modified keeping in view sector's growth and national interests. Spectrum has seen the days from administrative allotment to auction, the license fee system has traversed the path from fixed regime to a revenue sharing model.

The Government has stretched its hand quite far in extending help in keeping the sector live and giggling. The result is obvious. The customer has benefitted and so has society. Almost every citizen can afford a mobile. This has not only benefitted the telecom industry but has also expanded the digital penetration in society. Bridging the digital divide on one hand directly creates employment, on the other hand it indirectly supports employment in the telecom infrastructure and service industries.

According to Earnest and Young (2011), 'Indian telecom is an economic miracle in the making'. Connecting such a vibrant economy of more than a billion people together and with the rest of the globe is an extraordinary achievement in terms of a nation's socio-economic development and the credit to a great extent goes equally to the flexible framework , benevolent policy maker / licensor and futuristic operators.

BIBLIOGRAPHY

Books and Journals.

1. Department of Telecom. (2021). Annual report 2020–21. . ACT: Author. https:// dot.gov.in/ sites/ default/ files/ Annual%20Report%202020-21%20English%20Version.pdf accessed on 28 Sep 21.

2. Department of Telecom. (2019). Annual Report 2018–19. . ACT: Author https://dot.gov.in/sites/ default/files/Annual%20Report-2018-19%28English%29.pdf accessed on 29 Sep 21

3. Telecom Regulatory Authority of India (2020). TRAI Annual Report 2019–20. . ACT: Author https://www.trai.gov.in/sites/ default/files/Annaul_Report_02032021_0.pdf accessed on 28 Sep 21

4. Desai, A. (2006). India's Telecommunications Industry (1st Ed.). SAGE Publications.

5. Supreme Court of India. (2011). Civil Appeal No. 5059 of 2007. . ACT: Author https://main.sci.gov.in/judgment/judis/38761.pdf accessed on 28 Sep 21.

6. Department of Telecommunications, Government of India Telecom licensing orders from 1994-2021 ACT: Author Retrieved from www.dot.gov.in.https://cis-india.org/telecom/resources/licensing-framework-for-telecom accessed on 28 Sep 21.

7. Telecom Regulatory Authority of India (2021), Consultations and Recommendations on Licensing. ACT: Author, Retrieved from www.trai.gov.in.https://www.trai.gov.in/release-publication/consultation, accessed on 28 Sep 21.

8. TRAI. (1997). TRAI Act 1997. https://www.trai.gov.in/sites/ default/ files/ The_TRAI_Act_1997.pdf accessed on 28 Sep 21

9. Indian Telegraph Act 1885 | Department of Telecommunications | Ministry of Communication | Government of India. (1885). Department of Telecom. https://dot.gov.in/act-rules-content/2442 accessed on 28 Sep 21

10. Raghavan, V. (2007). Communication Law in India. Lexis Nexis Butterworks.

11. Bist, A. (2021). Telecom Industry in India - Telecom Sector, FDI, Opportun. Invest India. https://www.investindia.gov.in/sector/telecom accessed on 28 Sep 21.

12. TRAI. (2020). Yearly Performance Indicators Indian Telecom Sector. https://www.trai.gov.in/sites/default/files/YIR_15092021_0.pdf accessed on 28 Sep 21.

13. Aggarwal, P. K. (2016). [PDF] Impact of technological innovation on regulatory reforms: Case study of Indian telecom sector | Semantic Scholar. Semantic Scholar. https://www.semanticscholar.org/paper/Impact-of-technological-innovation-on-regulatory-%3A-Aggarwal/7f208bceb96fbaec016c6f067a0fa644cf62e037accessed on 28 Sep 21

14. Deo, A. (2017). Telecom Industry in India: Evolution, Current Challenges & Future Road Map. Indira Management Review, Indira School of Business Studies, Pune. http://indiraisbs.ac.in/IMR/wp-content/uploads/2017/11/10__July_2017.pdf accessed on 28 Sep 21

15. Kumar, K. (2017). Evolution of Telecom Sector in India. International Journal of Engineering Research and Development. http://www.ijerd.com/paper/vol13-issue9/Version-4/A130940104.pdf accessed on 28 Sep 21

16. Sahai, S. (2020). An in Depth Study of Indian Telecom Sector in India-Its Market Size, Consumer Trends and Opportunities. The International Journal of Creative Research Thoughts. https://ijcrt.org/papers/IJCRT2007348.pdf accessed on 28 Sep 21

17. Srinivasan, V., & Panneerselvam, S. (2020). Telecom Industry Current Trends In India. International Journal of Future Generation Communication and Networking, 13(4), 3347–3355. http://www.sersc.org/journals/index.php/ IJFGCN/ article/view/34340/19032 accessed on 28 Sep 21

18. Sravanth, K. R. S., Sundaram, N., & Kanniah, D. (2019). PEST Analysis of Present Indian Telecom Sector. International Journal of Innovative Technology and Exploring Engineering, 9(2), 4938–4942. https://doi.org/10.35940/ijitee.b6384.129219 accessed on 28 Sep 21

19. Ghosh, S Licensing framework for telecom www.cisindia.org accessed on 11.01.22.

20. Tata Cellular v. Union of India, 1994 SCC (6) 651.

21. National Telecom Policy, 1994 available at http://bit.ly/N4dlEk

22. Department of Telecommunication, Annual Report 2011-12 pp. 18.

23. Recommendations on Spectrum Management and Licensing Frampework, TRAI, 11th May, 2010.

24. Muntazir, A (2022), Licensing spectrum reforms www.economictimes. indiatimes. com accessed on 10.02.22.

25. The Technology, Media and Telecommunications Review: United Kingdom Gail E. Crawford, David Little and Lisbeth Savill Latham & Watkins LLP accessed on 11 January 2022.

26. Sridhar, V (2011) The Telecom Revolution in India: Technology, regulation and policy , OUP India; 1st edition.

27. TRAI (2017), A Twenty Year Odyssey 1997-2017

28. Thomas, P (2010) POLITICAL ECONOMY OF COMMUNICATIONS IN INDIA, sage publications

29. Dossani,R (2002) TELECOMMUNICATIONS REFORMS IN INDIA, Praeger PUBLICATIONS

30. Thomas,N () Empire and post empire Telecommunications in India: A history

31. Raghvan V () Communications Law in India

32. Prasad,R and Sridhar,V () The dynamics of spectrum Management: Legacy, Technology and Economics

33. ITU (2000) Telecommunications Regulation Handbook Module 2 , www.itu.int

Websites.

1. DOT website at www.dot.in

2. TRAI website at www.trai.in

3. CCI website at www.cci.in

4. TDSAT website at www.tdsat.in

5. OFCOM website at www.ofcom.org.uk

6. FCC website at www.fcc.gov

7. MIIT website at www.gov.cn/state_council

8. www.ibef.org

9. www.itu.int