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### Regulations and Policies for Sustainability of Telecommunication Industry

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#### Abstract

*As the competition in telecommunication industry increases in India with 52 licensed telecom service sector companies as of 2016, there is a need for a regulatory body like TRAI or the government to create rules, regulations, acts and policies for maintaining fair and healthy competition between the companies and to look after the interests of the public. These regulations and policies help in the sustainability of telecommunication industry in India. It helps to introduce social, economic and environmental reforms. In this paper we want to discuss and explore the present Acts and Policies implemented and their impact on telecom industry and society, potential for creating new Acts and Policies for the present generation innovation in technology and services.*

**Keywords:** Sustainability; Telecommunication; Regulation; Policy; TRAI, Acts.

#### 1. Introduction

Telecom sector is a vital factor in the advancement of a country. Telecom services play an important role in socioeconomic development of a country. As the need for long distance communication grew and new means of communication were invented, rules and regulations [1] were required to be enforced to protect the social, economic and environmental interest. With increase in demand for new available services, investments have to be made into infrastructure and new technology which are essential for the sustainability of telecommunication industry in India. There is a need for regulation [2] of the services due to the introduction of private service operators in telecommunication industry. It is essential to formulate developmental policies for the accelerated growth of the telecom sector.

#### 2. Acts

This section provides details about the acts regulating the telecommunication industry and steps taken to make them sustainable. The acts [3] discussed are Indian Telegraph Act, The Indian Wireless Telegraphy Act, Cable Television Network Act and Telecom Regulatory Authority of India (TRAI) Act.

##### 1. Indian Telegraph Act

In order to make minor changes and improve its texture, an act came into action on the first day of October 1885 [4], named as "Indian telegraph act". There are four parts in this act relating to telegraph namely Preliminary, Privileges and powers of the government, Power to place telegraph lines and posts and Penalties.

**Preliminary:** In preliminary part of the act [4], the short title, local extent and commencement of the act are explained. Indian telegraph act is revoked by Repealing act 1938. According to this act, Telegraph is an instrument that carries useful information and makes use of radio waves with frequencies about 3000 GHz, travelling in space without any external guide. This act [4] describes 'telegraph' as basically an apparatus which is capable of transmitting and receiving the signs, recordings, pictures, signals by means of wire or magnetic emissions. Telegraph lines are wires used for the purpose of telegraphic communication. Telegraph officer is a person working in connection with establishing and maintaining the telegraph. Message is a small note sent by telegraph. Telegraph line is a wire covered with a coating used for sending and receiving a telegraph. Post means a pole which helps in carrying a telegraph line. Telegraph authority is a supremacy empowered by director to do all the work. Local authority is a sovereignty committed by state or central government. **Privileges and powers of the government:** Second part of this act [5] explains about privileges and powers of government. Throughout India, the Central Government has the exclusive right of setting up, supporting and functioning telegraphs. Government has the power to allot a license and to fix the payments. Central government has made rules under this act [5] and provided restrictions and conditions for supporting and functioning. The powers and privileges of the government are Central government has the immunity of setting up and supporting new functioning telegraphs, the government has the power of setting up and supporting wireless telegraphs on fleet within territorial waters and on air-crafts, the government has the power of setting up and supporting wireless telegraphs throughout India and Has a power to establish telegraph on Railway

company. Power to place telegraph lines and posts: Third part of this act [5] explains about the power of the government to place telegraph lines and posts. The powers granted are the Telegraph Authority has the power to support telegraph line anytime and anywhere throughout the country, the authority has the power to access a building in order to fix or discard telegraph lines or posts, the local authorities have power to provide permission for discarding or modifying of telegraph line or post, they have power to shift position of gas lines, water supply pipes or drainage lines and they have the power to remove trees interrupting telegraphic communication.

Penalties: A person violating the rules made under this section [5] may be punished. In case of violation of wireless telegraph, the person is imprisoned for three years with or without fine. When any person is adjudged of a breach published under this act, the judiciary before which he is declared guilty, will order that the telegraph in respect of which breach has been committed to be forfeited by the government. The penalties are issued for Any condition of license is crossed, Utilizing unsanctioned telegraphs, Opposing setting up of telegraph lines on railway property, Trapping of the message, Damaging of telegraphs, Interference with a telegraph line or post, Sending of fabricated messages, Retaining a message delivered by mistake and Bribery.

## 2. The Indian Wireless Telegraphy Act

As there was a shift in the communication sector from terrestrial to wireless, India pushed forward 'The Indian Wireless Telegraphy Act, 1933' [6] to introduce wireless telegraphy apparatus in the country. This act defines 'wireless communication' and 'wireless telegraphy apparatus'. This made the communication sector to acquire wireless telegraphy instruments for communication purposes. Penalty for offenses were defined which included that any unauthorized person possessing wireless telegraphy apparatus will be punished. For the first time offenders, the fine may be extended to one hundred rupees and for repeat offenders, the fine maybe extended to two hundred and fifty [7].

## 3. Cable Television Network Act and Rules

To standardize the activity of the cable television companies, the Cable Television Network Regulation Act [8] was brought into constraints in our nation. It stretches out to the entire of India and came into compel on 29th September, 1994. The main objective of the act [8] is to regulate the operation of cable network system. The lack of a controlling authority resulted in large number of cable operators broadcasting contents without any restrictions. To prevent such activities, the act was brought into force. It is authorized as takes after.

A Cable Television Network must start its operation only after it is enlisted. For enlistment of a Cable broadcasting company or for restoration of enrollment, the cable operator should satisfy certain qualification criteria and other recommended conditions. Different classes of cable operators are furnished with various qualification criteria. It is required for each Cable Administrator to broadcast programmes of any channel in an encoded format through a computerized framework. The cable operator is allowed to put and keep up underground cables. They are additionally approved to enter on the property of the supporters, every now and then, to put the links, inspect, repair, adjust or evacuate such links or posts. Unless the programmes to be transmitted are in consistence with the predetermined program code, their transmission or re-transmission is entirely restricted. The transmission or re-transmission of any ad through a cable service isn't allowed unless such programmes are in consistence with the prescribed advertisement code. A record of the considerable number of programmes transmitted or re-transmitted amid a months term must be obligatorily kept up by the cable operators in the recommended organize. Such record must be protected by the cable administrator for a period of one year after the genuine broadcast of the said programs. The Central Government may determine the Doordarshan stations or the stations worked by or in the interest of Parliament, to be compulsorily conveyed by the operator in their network and the way of gathering and re-transmission of such stations. Cable administrators must utilize standard gear in the satellite broadcasting company which fits in with the Indian Standards. Every cable operator ought to guarantee that the cable station worked by them doesn't meddle with the working of the authorized telecommunication networks. Central Government or the officers approved by it or any other approved office might have the privilege to review the cable system. If any approved officer has motivation to trust that the arrangements are being repudiated by any cable administrator, he may confiscate the hardware utilized by such cable administrators for operating the cable service.

The gear seized might be obligated to appropriation unless the cable administrator whose hardware has been confiscated registers himself as a cable administrator inside a time of one month from the date of confiscation of the seized gear. Confiscation of gear not to meddle with other punishments. Any individual wronged by any choice of the jurisdiction settling a seizure of the gear may incline toward an interest to the jurisdiction, to which an interest lies from the choice of such court. Whoever negates any of the arrangements of this Act [9] should be culpable. If a breach under this Act is conferred by a management, each person who, during the time at which the breach was submitted, was accountable for, and was mindful to, the management for the business of the institution, might be regarded to be liable of the breach and should be at risk to be continued against and rebuffed as needs be. No court should take perception of any offense culpable under this Act [9] with the exception of upon a dissension in composing made by any approved officer. Power to forbid transmission of specific

programmes out of public interest. Power to forbid activity of cable network in public interest. Every endorser in the told regions who is desirous of getting more than one pay stations should apply to any of the multi-framework administrators, allowed consent either specifically or through any of his connected neighborhood cable operators, to supply and introduce at least one set best boxes in his premises according to the plan affirmed by the authority and broadcast the essential channels through them. Every cable operator must be obliged to keep up the administration according to the guidelines, including the courses of action for taking care of disagreements and redressal of grievances of the endorsers. These guidelines were brought into force and amended a number of times to regulate the cable system.

#### 4. Telecom Regulatory Authority of India Act

In Telecommunication field, strengthening of regulators are essential as there is arrival of private sector. There was an urgent need to start an autonomous administrative body. This need was suggested in the guidelines issued for entry of private sector in basic telecom services. Telecom Regulatory Authority of India [10] was established in 1997 in aftermath of TRAI (Ordinance) this was replaced by an Act of Parliament, to manage the telecom services. The main functions of TRAI are to advocate the necessity and timing for launch of new telecom service provider, on the terms and conditions of the license, ensure conformity of terms and conditions of license, Effective spectrum management, List the standards of quality of service to be provided by the telecom service providers, Ensure the quality of service, Safeguard the interests of the users of telecom services by executing regular inspection of the services offered, Ensure effective conformity of Universal Service Obligations and Disclose the rate [11] at which telecom services within India and outside India shall be provided under this Act. TRAI is administered by a secretariat headed by a secretary. The secretary process all the proposals. The agenda for Authority meetings is formulated by the secretary. The minutes of the meeting are formulated by the secretary and the regulations are disseminated in accordance to the meetings. A panel of advisors assist the Secretary. These include Mobile Network, Interconnection and Fixed Network, Broadband and Policy Analysis, Quality of Service, Broadcasting & Cable Services, Economic Regulation, Financial Analysis & IFA, Legal, Consumer Affairs & International Relation and Administration & Personnel. Officers from the premier Indian Telecom Service and the Indian Administrative Service are selected for these posts [12].

### 3. Policies

This section provides insights about the policies governing the telecommunication industry. The policies discussed are National Telecom Policy 1994, New Telecom Policy 1999 and Broadband Policy 2004.

#### 1. National Telecom Policy 1994

The National Telecom Policy 1994 [13] is an economic policy, adopted by the Department of telecommunication in order to improvise the competitiveness and sustainability in the international market. The secondary highlight of this policy is alluring overseas direct investment and accelerate domestic investment. The main aim was to provide world class telecommunication services and the advancement of telecommunication sector in the country. The targets of this policy [14] were to ensure the availability of telecommunication service to all the people in India. This includes covering rural areas at the earliest. The quality of the service provided had to meet world standard to eliminate consumer complaints and also provide wide range of services to satisfy the customer's demand at fair prices. In view of the growth in economy and demand, it was necessary setup targets for the future Indian Telecommunication Industry which are Telephone line should be made available on demand by 1997, Strive to cover all rural areas by the year 1997, In urban areas a public call office should be allotted per 500 persons by the year 1997 and All VAS (Value Added Services) available globally should be introduced in India to raise the quality of Telecom services in India to global standard preferably by the year 1996

#### 2. New Telecom Policy 1999

The New Telecom Policy (NTP) 1999 [15] strived to administer universal service to all remote areas, including the rural areas, propelling India towards its social and economic goal. There was an increase in private sector Telecom companies which made the Indian government to take steps in spectrum management. The objectives of this policy [16] were to provide special services like Cellular Mobile Service Providers (CMSP) which made mobile telephony service a reality. CMSP granted license based on service area. National and International long-distance operators were established. This helped to facilitate the growth of IT (Information Technology) sector and media thereby drive India into becoming an IT superpower. It also introduced one time only entry fee to all the companies entering telecommunication sector. Disaster management was planned to ensure appropriate communication could be made. The main highlight of this policy [16] was the spectrum management which helped in the sustainability of the Telecom industry. There is a need for a transparent procedure of allocation of frequency spectrum for use by a service and making it available to various users under specific conditions. Spectrum were assigned to each Telecom service provider with spectrum usage fee being charged.

#### 3. Broadband Policy 2004

This was a massive milestone in India's development as this contributed in development of India's GDP (Gross Domestic Product) and enhance the standard in quality of life by delivering new innovative services like tele-education, e-governance,

tele-medicine and streaming services and also aided in creation of employment in a new segment. The aim of this policy [17] was to create high speed connection to data and web-based knowledge but access to the PCs for the provision of internet was too low as compared to other Asian countries. The objectives of this policy [18] were to provide 'always-on' data connection which would replace 'dial-up' data connection. The minimum speed for download was set at 256 Kbps to each individual subscriber at a reasonable tariff. With research and development in telecommunication, feasibility of new technology were tested and implemented to adapt itself with the rapidly expanding global market. To resolve the bandwidth demand of the people and to meet the high-speed data connection of the world, optical fiber technology was introduced. A total of more than 5.5 lakh kilometer of OFC (Optical Fiber Cable) [19] were laid throughout the country. The private sector companies covered more than 1 lakh kilometer and the public sector companies like BSNL/MTNL covered more than 4.5 lakh kilometer. Two new frequency spectrum band of 2.4 GHz and 5 GHz were made available to the public to accelerate the penetration of broadband and internet through a new wireless technology called Wi-Fi [20].

#### 4. Conclusion

Telecom regulations and polices have identified the need to launch new telecom operators along with supporting and regulating existing operators in the process of expansion of telecom industry and improvement of service. There is a need to expand the network and provide services to all rural and remote areas. The introduction of new service providers helps expand the network, stimulate the development of the telecom industry, creates a healthy competition among the incumbent service providers and improves the efficiency of the services provided. As the telecom industry, telecommunication technology and consumers of telecom services grows, there is a need to implement new acts and policies or bring about amendments in the existing acts and policies to help them in sustainability. This will contribute to the GDP of India.

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