Chapter I

Introduction
1.1 Changing Role of the State

The role of state is being defined and redefined with the changing times, expedient necessities and the emerging developments. The doctrine of laissez-faire propounded by Adam Smith, which developed in the late seventeenth and early eighteenth centuries, held that the government should limit itself to the maintenance of law, order and external security. The State should not interfere in economic affairs. This doctrine and the philosophy that the government that governs the least is the best reached its zenith in the late nineteenth century, but lost its influence thereafter as the demand for government regulation grew.

In a sharp contrast to the laissez faire philosophy, the concept of modern welfare state was expected to take care of the citizens from womb to the tomb or from cradle to the grave and even before birth and after death.¹ In this phase, the thinking about the State and the development viewed the State as an essentially benevolent leader of the development process, an "omniscient social-welfare maximizer".²

The economists like, J.M. Keynes strongly advocated the stabilizing role of the government in a predominantly market economy through variations in the cost and variability of credit, progressive income taxation, government investment through public works and other means of pump-priming process, and founded the New Economics demolishing the classical economic doctrine of the laissez-faire of Adam Smith. As the market mechanism alone cannot perform all economic functions, public policy is needed to guide, correct, and supplement it in certain respects. This happens because “firstly, the contractual arrangements and exchanges needed for the market operation cannot exist without the protection and enforcement of a governmentally provided legal structure; secondly, market mechanism leads to efficient resource use, when there are no obstacles to free entry and consumers and producers have full market knowledge – Government regulation is needed to secure these conditions; thirdly, even if all the barriers to competition were

removed, the production or consumption characteristics of certain goods are such that these goods cannot be provided through the market - problems of ‘externalities’ arise which lead to ‘market failure’ and require solution through the public sector; and fourthly, public policy is needed to secure the objectives of employment, price level stability, and the socially desired rate of economic growth”.

Five types of arguments for state intervention in the economy may be clearly distinguished:

(i) Market failure, which may arise from many possible sources including externalities, missing markets, increasing returns, public goods, and imperfect information;

(ii) A concern to prevent or reduce poverty and/or to improve income distribution;

(iii) The assertion of rights to certain facilities or goods such as education, health and housing;

(iv) Paternalism (relating, for example, to education, pensions, and drugs); and

(v) The rights of future generations (including some concerns relevant to the environment).  

The need for state intervention and hence regulation of market is strongly supported by the theory of market failure.

1.2 THEORY OF MARKET FAILURE

The theoretical foundations for the provision of public goods and services by government and government’s control over private (market) sector are grounded in the theory of market failure. The theory of market failure postulated that market (i.e. private sector) is bound to fail in five sets of circumstances and hence there is need for the government to intervene. First, the private market fails to provide adequately the public good, i.e., good which is inherently available to all, not possible for the producer to exclude the

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3 Cherunilam, op.cit., pp. 1-3.  
4 Nicolas Stern quoted in Meier & Rauch, op.cit., p. 426.
access of those consumers, who don’t pay for it; and for which one person’s use does not preclude their availability to another. Secondly, markets are argued to fail, when there are increasing returns to scale, i.e., where there are continually decreasing unit costs as the scale of production increases. This is normally in the case of natural monopoly services like electricity, water, gas, etc. The third form of market failure results from externalities, which arise when the production decisions of an organization give rise to costs or benefits, which are not taken into account by the producer or consumer. The fourth argument for government provision in traditional economic theory is that relating to merit goods, like education and health. Private markets may restrict their access; government action can produce and distribute merit goods in a way that ensures that all have appropriate levels of access to them. Government action can, finally be justified on the basis of information asymmetries between the producers and the users of particular goods and services. Government can act to even out the information imbalances in the market, by reducing the incentive for producer to oversupply or the user to under-demand services, like insurance.\(^5\)

There is hardly any country in the world, the economy of which is not in one way or the other influenced by the State control. However, the extent of State control and the type of control may vary widely between nations depending upon the nature and stage of development of the economy, the behaviour of the private sector, the political philosophy, administrative system, etc.

There are four important roles being played by the government in an economy namely: regulatory; promotional; entrepreneurial and planning role. Out of these, the regulatory role of the Government is very significant and has assumed critical importance in recent times.

Government regulation of economy may be broadly divided into direct and indirect controls. The direct administrative or physical controls are more drastic in their effect. The distinguishing characteristic of direct controls is their discretionary nature as they can be applied selectively from firm to firm and

industry to industry, at the discretion of the State. The indirect controls are usually exercised through various fiscal and monetary incentives and disincentives or penalties.\(^6\)

State has been exercising regulatory control over market from time to time. More recently the entry of private sector into core areas of infrastructure like power, telecommunications, insurance, education and health has necessitated that appropriate regulatory framework be put in place to promote fair competition and to ensure reasonable price and quality of services and products to the consumers.

1.3 SELECTION OF THE RESEARCH PROBLEM

Regulatory governance has emerged as an important area in the discipline of Public Administration. With the opening up of the economy many of the sectors which were hitherto reserved and state monopolistic in nature had been thrown open for the private sector. This required putting in place an appropriate regulatory framework.

In India from the perspective of the discipline of Public Administration, the setting up of various regulatory bodies in different sectors ranging from Securities and Exchange Board of India (SEBI) for the Stock Market (1992); Telecom Regulatory Authority of India (TRAI) for the Telecom Sector (1997); Tariff Authority for Major Ports (TAMP), for the Ports (1997); Central Electricity Regulatory Commission (CERC) and State Electricity Regulatory Commissions (SERCs) for the Electricity Sector (1998); Insurance Regulatory and Development Authority (IRDA) for the Insurance Sector (2000), etc. have generated rather stimulated enough interest in the realm of regulatory governance. More recently, the country has initiated the process of operationalizing the new aviation regulator, the Airports Economic Regulatory Authority (AERA). The major duties of AERA will be to foster healthy competition among airports and airlines, encourage investment in airport facilities, regulate fares and protect the interests of users. The AERA Bill,

\(^6\) Cherunilam, op.cit., pp. 4-5.
2007, got Cabinet's approval in May 2007, but it was cleared by Parliament only in October 2008.

This has necessitated the need for examining the working of these regulatory bodies over the years.

As mentioned above, the regulatory governance in India has been witnessed in a number of sectors; telecom has been among the first.

The regulatory governance in the telecom sector began with the purpose of addressing the major telecom constraints in the pre-liberalized era. These constraints included monopolistic nature, high operating costs, poor maintenance, limited budgetary resources and weaknesses in organization and management.\(^7\) These factors among others were hampering the growth of the telecom sector and consumers were a harried lot on account of long waiting list and poor quality of services. The growing role of private sector in the telecom sector had also raised policy questions such as fair competition; prices; quality of services; involvement of stakeholders in policy formulation and implementation; and equitable distribution and access of services. The importance of regulation in telecom sector can be considered from its aims of increasing tele-density and access to telecommunications in the country at affordable prices; making available telecommunication services which in terms of range, price and quality are comparable to the best in the world; providing a fair and transparent policy environment which promotes a level playing field and facilitates fair competition; and protecting the interest of the consumers and addressing general consumer concerns.

In the area of telecommunication, TRAI, which was set up in 1997 and reconstituted under an amendment ordinance of 2000 have been performing a number of vital tasks. The need was to carry research into its organization and working and make an assessment about its performance over the past more than one decade. The previous researches carried out so far had limitations, which have been identified in the chapter latter and the present research attempts to overcome those critical gaps.

1.4 REVIEW OF LITERATURE

A large number of reviews of studies were undertaken in the research field under consideration. Select studies were reviewed under two heads: (a) Studies on Regulation; and (b) Studies on De-Regulation and Re-Regulation.

(a) Studies on Regulation

Rosenbloom (1989)\(^8\) states that the general origin of regulatory activities is associated with the growing economic, technological, and social complexity of life during the past century or so. According to him, the need for regulatory administration arises, to assure the safety of products, services, processes, and technologies. He opines that our economic inter-dependence calls for making economic practices predictable, reliable and stable through regulation; rate-setting and controlling entry into a field of economic activity. The increasing division of labour and greater specialization makes us all highly dependent upon one another but less able to assess the predictability and reliability of each other's behaviour. Thereby arises the need for regulatory administration to assure the safety of products, services, processes, and technologies. According to him, the regulatory structure and process often involve a commission format and the combination of executive, legislative, and judicial functions. Moreover, in general, regulatory administration tends to vest a great deal of power in the hands of agencies that are by design considerably independent of elected officials.

Walsh (1997)\(^9\) states that a basic argument for government production of goods and services is that, in certain circumstances, the market fails and that planning, collective decisions and public provision will be more effective in forwarding certain social purposes than processes of individual exchange. According to the author, even those who argue that state should play a minimal role believe that it is necessary for the state to create the institutional framework and legal structure which make social life and market activity possible. He states that most thinkers see a need for the state to intervene


either in production or distribution process; the state intervention in distribution is required for equity, fairness and justice, while in the case of production, the state intervention is based on the argument that left to itself, the market will fail to produce the optimum range and quantity of outputs. A further argument is that there are certain activities that are of such moral significance that they should not be provided by the market, even if they could be, because they will be tainted by the association with financial exchange and profit.

Cherunilam (2000) has discussed the different roles of government in the economy. He discusses four important roles played by the government in an economy namely: regulatory; promotional; entrepreneurial and planning role. Further, talking about regulatory role, he states that government regulation of economy may be broadly divided into direct and indirect controls.

Meier & Rauch (2000) lists the five distinguishing groups of arguments for state intervention. They are: (i) market failure; (ii) a concern to prevent or reduce poverty; (iii) the assertion of rights to certain facilities or goods; (iv) paternalism; and (v) the rights of future generations. According to the authors, there is a further substantial role for government in improving market functioning and private sector activity through such measures as building infrastructure, providing a regulatory and legislative framework which allows competition to work effectively, and intervening selectively in industry and agriculture.

Sengupta (2001) observes that today be it a developing country or a developed one, State has been performing an ever expanding role, and regulation of the private sector in some form or other by the public authorities in the larger public interest has been accepted as a part of national policy. He further opines that the question today is not whether there should be Government regulation of private business, but only to what extent it should be there.

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10 Cherunilam, op.cit., pp. 1-11.
Mishra and Bhat (2002)\textsuperscript{13} opines that regulatory activities are primarily of four types, namely, franchise regulation; rate and tariff regulation; quality regulation; and division of revenue. Franchise regulation determines the geographical and technical boundary to be served by companies. Rate and tariff regulation is exercised by ensuring the reasonableness of cost of service and maintaining parity between charges made to different classes of customers and in different geographical area. Quality regulation is exercised by enforcing the uniform standards of performances. Division of revenue regulation ensures appropriate negotiation and equitable distribution of revenue among all the operators.

(b) Studies on De-Regulation and Re-Regulation

Curven (1994)\textsuperscript{14} states that deregulation or liberalization means that an industry which has previously been able to protect itself from competition, either because it has been given a statutory monopoly or because it has been successful in erecting barriers to entry, is exposed to competitive forces by the Government. The Government hopes that by deregulating, it would make an industry behave, as it would have, had it been privatized; but without an actual transfer from public to private sector taking place.

Crishna et.al. (1999)\textsuperscript{15} note that while all the countries have attempted to deregulate and liberalize their data and voice services, encouraging private investment and expanding the range of offerings, this process has been unevenly implemented and there appears to be insufficient comprehension of the potential of voice and data communications to be a key enabler in societal transformation, both economic and social. Commenting upon the functioning of TRAI they note that though India set up the TRAI in 1997, but it has been an extremely poor agent of change insofar as effectiveness is concerned. Public wrangling and lawsuits have marked its existence, with its ability to enforce rulings particularly weak.

\textsuperscript{13} Mishra & Bhat, op. cit.
Das and Srinivasan (1999)\textsuperscript{16} opine that subsidizing telephone rentals and local call rates is not the best way to achieve greater penetration as the efficiency costs involved in this are too great to be ignored. Therefore they believe that other cheaper methods such as targeted subsidies need to be explored. According to them if the local services are open to competition the costs are likely to decline significantly and the need to subsidize local rates will decline. Therefore, consumer interests will be best served through adoption of economically efficient pricing, encouragement of competition and reforming the system of providing universal service.

Economic and Political Weekly (1999a)\textsuperscript{17} flays the government's action in staying the tariffs fixed by the TRAI and states that it cuts at the roots of the proclaimed policy reforms in respect of the infrastructure sectors. The editorial notes that to attract potential competitors to the deeply-entrenched government organizations in these sectors, it was essential to hold out the assurance of level playing fields and for that the policy-making function of the government in these areas had to be separated from control over the parameters of the commercial operation of different suppliers and service-providers, which task was to be handed over to statutory bodies which were to be entirely free of government control in the areas of authority assigned to them. Commending the open and transparent way of decision-making of TRAI it states that it is certainly a world apart from that of the closed-door working of the bureaucracy and its vassal organizations.

Economic and Political Weekly (1999b)\textsuperscript{18} observes that the low level of telephone use (teledensity of around 2) reflects a sadly stunted telecom infrastructure. According to the editorial, the technology changes are so rapid that it makes sense for the government to confine itself the activities that it alone can perform and let the market evolve, define and operate the other activities. Regulation has to be ensured by the state but cannot be carried out...
by the state in a situation where the state itself is a major player; so this calls for an independent regulator.

Economic and Political Weekly (1999c)\(^{19}\) comments that it has to be understood that telecom is not just a vital piece of infrastructure that should be competitively priced but also one suffering from stunted growth; a high revenue share would mean a higher tariff and a lower growth of telecom services. The editorial notes that the thinking in the government has been to have separate regulators for telecom (of which the Internet is a part) and broadcasting. The editorial opines that technological convergence makes this impractical; as seamless communication of voice, data and video, through multi-modal transmission over air and cable is the order of the day and it calls for integrated regulation.

Economic and Political Weekly (1999d)\(^{20}\) commenting upon the suggestion that the present TRAI Act should be scrapped and replaced with fresh legislation, the editorial notes that the aim of any such fresh legislation should not merely be to remove existing ambiguities about the regulator’s powers vis-à-vis the government over specific areas of telecommunications but should also be to broaden the scope of regulation to encompass communications in their entirety. The editorial opines that in the new TRAI Act, it must be made unambiguously clear that the government, while retaining its role as policy-maker, must consult TRAI before making policy changes and TRAI’s authority to fix tariffs must be absolute.

Rao et. al. (1999)\(^{21}\) addressing the Universal Access issue in particular notes that the Internet – especially in south Asia – is still an urban-centric, largely English-oriented medium and the greater penetration of the Net in south Asia will depend on factors like affordability of access in rural areas, and relevance of content and services in local languages. The article recommends the need to focus on Internet kiosks and community centre


projects for rural areas and the need for South Asian Internet Service Providers (ISPs) to co-operate.

**Chowdary (2000a)** & **(2000b)** notes with caution that around the world, regulation was separated from operations and licensing before the demonopolisation and licensing process began. But, TRAI was created (in 1997) only after all the licences, with terms and conditions as drawn up by one of the players, i.e., DoT (which was uniquely placed as the ministry, the licensor, the policy-maker, the operator, the regulator and also the arbiter over disputes between customers and the services provider, i.e., itself) were got signed by the P-Telcos and issued. Pointing to the unfortunate tendency of DOT to question and take almost every action of the TRAI to the high court; the article notes that the TRAI is thus being paralyzed. Emphasizing upon the need to have talented and young members of TRAI; the article states that the membership should not be confined to government servants in service or retired. Rather, it is suggested that the selection must be made by a five-person committee comprising the chief justice of the Supreme Court as the chairman and the four members being the presiding officers of the Lok Sabha and Rajya Sabha and the leaders of the opposition in those houses.

**Chowdary (2000c)** & **Economic and Political Weekly (2000b)** observe that the prohibition on Domestic Long Distance (DLD) operators carrying intra-circle inter-exchange calls assumes a restricted entry regime for service provision within the circles. They further note that this goes against the grain of the new telecom policy which envisages free competition. Citing examples from other countries they state that in the US, there are over 600 companies providing long distance; in Japan there are more than a dozen companies; even in small countries like France, Finland, etc, there are dozens of long distance companies; as fierce competition promotes customer welfare and increases long distance telephone traffic. They opine that it is also

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essential that the P-Telcos in domestic long distance should be free to deploy whatever technology that they want for long distance switching.

Chowdary (2000d)\textsuperscript{26} laments that such a mighty organization as the DoT with tremendous resources and reach and professed commitment cannot fulfill its targets for the Village Public Telephones. He disputes that the rural telephony is costly in capital construction and very un-remunerative in operation because of limited number of calls and even more limited range of calling by citing the examples of \textit{Grameen} Telephone of Bangladesh and P-Telcos in U.S. He opines that the companies cited were making handsome profits because of the imagination shown by the regulators. Talking about the term Universal Service, he states that initially its meaning was that the telephone service must be geographically universal, however, overtime, it has come to acquire a different meaning, i.e., more than 90 per cent of homes must have a telephone. According to him, the aim should now be on Universal Access and not Universal Service.

Chowdary (2000e)\textsuperscript{27} calls for the need to have nominal entry fees and revenue share and not exorbitant as he believes that the idea that the entry fees should be sufficiently high to eliminate non-serious companies is flawed. According to him when the number of competitors has no limit, there is absolutely no harm if a number of them turn out to be non-serious. The serious would in any case rush to establish their network and roll out the services to capture the market. He opined that Department of Telecommunications’ act of prohibiting Internet Telephony is one of the most citizen-hostile and telephone-subscriber unfriendly act. He questions that when technologies enable telephone calls without reference to any distance on the Internet for as low as Rs 2 per minute, whether the call is within India or between India and the US, why should the DoT prohibit them?

Chowdary (2000f) & (2000g) states that in order to promote provision of telephones in the villages, i.e. universal access, the entry condition now is that the private long distance telephone companies should contribute 5 per cent of their revenues towards the Universal Access Fund (UAF). He asks that when this fund is there for public good as a subsidy to rural telephony, why should there be a general revenue share of 10 per cent besides the UAF? He noted that in Europe, the contribution that all telecom companies make is 0.08 per cent of their revenue into common pool. Further, he wonders that when the National Telecom Policy 99 talks of convergence - the DoT is busying itself with senseless separation of intra-state, inter-state and international telephone for licensing; and such a distinction is absolutely unwarranted by technologies that underlie these three services. Further, he laments that it is unfortunate that the license fees are going into the bottomless pit of the union government’s perpetual budgetary deficits and not towards a telecom development fund and therefore to social welfare.

Economic and Political Weekly (2000a) & (2000e) notes that Indian policy continues to ignore convergence and grants separate licenses for different communication services. He notes that separate operating licenses are issued for each circle, an operating area defined on the basis of the administrative convenience of the department of telecommunications (DoT) rather than technological or commercial considerations. In addition, there is a cap on the number of licenses that any individual company can hold. The editorials opine that the government has to change its telecom policy to incorporate the reality of convergence and to remove the arbitrary geographical segmentation of the market. The editorials further opine that the government should dilute entry conditions to make the sector truly competitive.

Economic and Political Weekly (2000c)\textsuperscript{32} notes that over the last decade and a half several countries have been struggling to achieve an adequate balance between too much and too little control and monitoring of the internet and all that it stands for. The editorial observes that in the early years when the new medium grew to encompass the wide range of commercial activity, the dominant opinion was to give room for its development without the encumbrance of legislation. Over the decade several countries have introduced laws to regulate information technology.

Economic and Political Weekly (2000d)\textsuperscript{33} welcomed announcement that the domestic long distance (DLD) sector of telecom would be opened up for entry by multiple players, without any restriction on numbers. The editorial further noted that given the potential of the Internet to offer long distance connectivity cheap, it would be an anti-competitive measure for the government to maintain its ban on voice over the Net and Internet telephony represents one of the cheapest ways of providing telecom connectivity to the rural areas.

Economic and Political Weekly (2000f)\textsuperscript{34} notes that after decades of government monopoly and departmental operation had failed to extend the reach of telecom beyond some 3 per cent of the population, the halting and limited changes in telecom policy and organization of telecom services effected so far have already achieved a sea-change in the quality of service available to users in terms of improved technology, a range of new facilities, easy availability and in many areas reduced costs as well.

Lane (2000)\textsuperscript{35} opines that how exactly one measure the degree of regulation in a sector of society is far from clear, but there is a general consensus that modern society is overregulated and is in need of regulatory reform, such as deregulation of markets. However, he states that it has proved very difficult to halt the process of increasing regulation. Further he

states that this applies in particular to product regulations, whereas the regulatory reform movement in various manifestations has been more successful in removing or deregulating economic regulations concerning market structure and price determination. According to him, regulations bring two kinds of costs that in the end will have to be picked up by the consumer or citizens. Direct costs tend to be small as it is not very costly to operate a regulatory commission, but indirect costs can be very high as regulations may give rise to inefficiencies in both production and consumption.

Virmani (2000)\textsuperscript{36}; Chowdary (2001a)\textsuperscript{37}; & Economic and Political Weekly (2001)\textsuperscript{38} opine that that there is no need to control and restrict investment into any area of telecommunications as a matter of policy. According to them, the technological advances both in computers and the repeated use of Radio Frequency Spectrum are so rapid that distinctions between local, intrastate, interstate and international telecoms on the one hand and mobile and fixed services on the other, as well as traditional telephony and data are difficult to maintain and it is counterproductive to raise artificial barriers between types of services. They opine that the telecom sector needs to be unified to achieve efficiency of scale and synergy between different kinds of services. It is further suggested that there be a single license that enables the licensee to offer any kind of communication service anywhere in the country using any technology.

Bhargava (2001)\textsuperscript{39} traces the journey of development in the telecom sector from government monopoly to liberalization, privatization and corporatisation of telecommunication services. According to him “the development saga in telecom sector in India since Independence can be summarized as that of impressive achievements coupled with glaring shortcomings. If viewed in the context of general developments in Indian economy, telecom sector has done remarkably well. If viewed in the global


context and evaluated in terms of lost opportunities, its performance has been no more than pedantic.”

Chowdary (2001b)\textsuperscript{40} states that an Informed, empowered and capable statutory regulators facilitate the transition from monopoly to multiplicity and the birth of competitive provision of networks and services. Calling for the need to redraw the role of government in the rapidly evolving telecommunication scenario, he says that the role of government should be that of a facilitator. According to him the most important need is for quick and cost-based inter-connectivity of different networks within the country and from the country to the global networks. Finally, he states that government should realize that all development and reforms are for the good of the consumers, i.e. increasing choice, reduced prices, improved quality of service and growing variety of services. Thus, he opines that Government and the regulator must see that consumer bodies are encouraged and involved in policy-making, dispute hearing and setting up of quality of service norms and penalties.

Malhotra (2001)\textsuperscript{41} analyses the technological activities in the telecommunication sector and traces the evolution of regulatory mechanisms. The author observes that a number of policy decisions and bold initiatives have brought the telecommunication sector out of the clutches of bureaucratic control and pedantic technology. The author states that regulation has always been separated from operations and licensing in several countries. He notes that in India, it was only in 1997, after a lot of debate and a bureaucratic deliberation, that an independent quasi-judicial watchdog for the sector, TRAI was formed by an act of Parliament.

Mishra (2001)\textsuperscript{42} laments that a vast segment of population living in rural areas across the country is still deprived of communication facilities. The article elaborates several available options that can help in effecting penetration of these services with suitable technologies and in a cost-efficient

\textsuperscript{42} Yatish Mishra (2001), "Telecom Infrastructure in Rural India", Indian Journal of Public Administration, VOL. XLVII, No. 3, July-September, pp. 426-33.
manner. He notes that in contrast to the urban areas where the cost of service is lower and returns are assured, the investments in rural areas represent higher risk and lower returns; this explains for the poor penetration of telecommunications services in rural India. He opines that this can be improved through strategic planning and other necessary measures such as suitable technology and a reliable and affordable service.

Savas (2001)\textsuperscript{43} opines that the process of regulation should be as straightforward and predictable as possible, with automatic price adjustments based on predetermined formulas and minimal reporting requirements; price regulation should allow producers to benefit from efficiency improvements. He says that the interested parties, including users of the service, should be encouraged to present their views at hearings and should have access to the decisions, and regulatory rulings should be enforceable, with the right of appeal. According to him, self-regulation can play a significant role. Noting that the greatest deterrent to private participation in a public-private partnership for infrastructure is the regulatory environment and attitude, he states that Private investors will be repelled and will seek a more hospitable place to invest if regulation is unlimited in its scope, unclear in operation, and inclined toward micromanagement. Therefore regulatory regime must be limited, transparent, fair, and consistent, and government must keep its promises.

Thierer (2001)\textsuperscript{44} opines that deregulation should mean the removal of regulations -- not the imposition of new forms of regulation to replace old ones. And deregulation should also mean the eventual "sunsetting" of the agency that oversees the sector that legislators hope to deregulate. He further states that telecom deregulation has been derailed because policy makers have developed a persistent fear. As a result, legislators, regulators and the courts continue to treat the industry as a plaything. Considering the situation in America he states that the situation five years after passage of the Telecom Act is slightly better than it was in 1996 -- not because regulation helped

\textsuperscript{43} E.S. Savas (2001), \textit{Privatization and Public-Private Partnerships}, New Delhi, Affiliated East-West Press Pvt Ltd.

\textsuperscript{44} Adam D. Thierer (2001), "Are We Really Deregulating Telecom?", Cato Institute, Washington D.C., February 8, www.cato.org/dailys/02-08-01.html
improve matters, but rather because technology continues to evolve in spite of regulation.

**Chowdary (2002a)**45 & **(2002b)**46 says that to require every telephone company to provide public telephones in villages in the state for which it has got a basic telephony license is vastly wasteful and impractical. Instead he suggests that the least cost method of providing village public telephones should be identified. He opines that if the penalties that are applicable to the licensed P-telcos for not providing VPTs are equally applicable to the DOT/BSNL, then BSNL has a liability to the extent of Rs 1,000 crores for not fulfilling its targets. He questions that is it ethical that a government company/department is left unpunished but a private telephone company is sought to be punished? He therefore emphasizes that the Government and public policy must be fair and equitable to all enterprises irrespective of ownership and competition should be on equal terms.

**Chowdary (2002c)**47 laments that Bharat Sanchar/MTNL has made interconnection a matter of contention with the Videsh Sanchar Nigam Limited. He opines that in telecommunications, if different networks of competing companies are not interconnected, there can never be any multiplicity. According to him more than 200 countries in the world have each an independent telephone system, with different underlying technologies, yet because they are all interconnected by procedures and principles which have been evolved over decades and by mutual consent, any person anywhere in the world is able to connect to anyone else. He thinks that either the TRAI or the DoT (not the Bharat Sanchar) should have taken the initiative and constituted a committee long ago to study the matter and come out with a consensus. Further, he suggests that if the parties cannot come to an agreement; it be solved by arbitration or by determination by the TRAI.

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Chowdary (2002d)\(^{48}\) observes that neither the telecom companies nor the TRAI have assisted in the participation of consumer bodies in an intelligent and effective manner in the TRAI's consultative processes. The TRAI has been holding consultative meetings of user bodies only in three or four cities and many bodies are not able to participate in these meetings because of the distance and expense involved. He observes that the Telecommunications services are being consumed more and more in the rural areas and the people there have many more problems than metropolitan consumers, but have the least access and capacity to represent to and participate in the TRAI's consultation meetings.

Economic and Political Weekly (2002)\(^{49}\) criticizing the decision of the government to ban PC-to-phone calls within India; remarks that the decision goes against the stated aim of lowering the cost of communications in the country and increasing tele-density. It opines that the Policy should not be such that deployment of particular technologies for enabling communication should require specific permission from the regulator and the government. The licensing and policy regime should be technology-neutral. Choice of technology initially and subsequently, when technology evolves should be left to the dynamics of cost and efficiency as interpreted by service providers.

Gupta (2002)\(^{50}\) observes that the developments in the telecom sector show that India has come a long way, from a much closed economy to a more decentralized model. She states that the government's reluctance in the first round of reforms to break the dominance of DOT and to overhaul the legal and regulatory regime led to endless litigation, which delayed the liberalization process for almost a decade. The article takes India's case as an example to show that a proper legal and regulatory regime at an institutional level at the outset, and a clear commitment to pro-competitive market principles at the political level, are necessary preconditions to successfully reforming the telecom sector.

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Chowdary (2003a)\textsuperscript{51} notes that it was in 1987 that a national convention was held of all the stakeholders before we embarked upon reforms in telecommunications and there is a need for another well-planned and structured national convention. Noting the sad state of affairs as far as competence of members of the regulatory body is concerned, he states that our regulators are all retired civil servants with no demonstrated competence and understanding. The staff has been borrowed from various departments, whereas, elsewhere in the world, regulators found it necessary to build sector-specific competence or capacity and for this they have been spending considerable amounts to teach and train all ranks of staff in the regulatory body itself. He lamented that TRAI has no such capacity-building programmes.

Chowdary (2003b)\textsuperscript{52} notes that the disputes between cellular mobile operators (CMOs) and basic telephone service operators (BSOs) regarding the ‘limited mobility’ have been hitting headlines, are being litigated in courts and before the telecom regulator and the tribunal, fouling up competition and confusing consumers. According to him, the spate of litigations have arisen primarily because a government department, the DOT, which was the licensor, operator and regulator combined, was put in charge of demonopolising itself as well as corporatising its operations. None of these changes was liked by the bureaucracy, the vested interests and the incumbent; that is why it introduced various distortions into the process of demonopolisation primarily to inflict infantile paralysis on its competitors.

Chowdary (2003c)\textsuperscript{53} & (2003d)\textsuperscript{54} states that DoT had accumulated and the BSNL has inherited assets to the extent of over Rs 1,20,000 crores, all but less than Rs 5,000 crore of which were ‘generated’ by pricing services far above costs. He notes that more than 98 per cent of the assets of the BSNL and MTNL were created not by budgetary contributions, not by five-year plan

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funds, not by equity shares, nor by borrowing from the market but entirely by overcharging customers through telephone bills. He therefore asks that 'when the BSNL is getting reimbursement of its deficits from socially desirable and government mandated telephone operations in loss-involving areas, i.e., rural and remote area public and private telephones, why should it be compensated further'? He views that giving so many financial sops and deferment of due payments to the state-owned companies is inequitable. Further, addressing the serious issue of quality of voice transmitted he says that in order to gain market share, the competitors are loading up the networks without enhancing their call handling capacity with the result the quality is deteriorating. He calls for the need to address this issue by TRAI.

Economic and Political Weekly (2003a) & (2003b) notes that by stipulating a tariff and interconnect regime for WLL-M separate from that of basic services, the latest tariff order of TRAI has established that there are three different kinds of services operating under a single basic service license. The editorial notes that the telecom regulator justifies these different tariff schemes on the ground that basic and other service licenses are different and therefore could have different regulatory and tariff regimes. According to the editorial, this is specious reasoning and policy should actually be changing to make services and tariffs technology-neutral. Therefore the editorials call upon the government to act fast on issuing unified, composite licenses to end the travails of the telecom sector.

Economic and Political Weekly (2003c) welcomes the decision of the group of ministers on telecom to switch to unified licenses for mobile services, although it observes that the unification envisaged remains partial and true unification of telecom services, one that dovetails into the new technological paradigm of convergence of communications, is still far away. The editorial opines that it is entirely meaningless to evaluate unified licensing merely from the point of view of how it affects different corporate fortunes as

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such evaluation overlooks the biggest stakeholder in telecom – the user of telecom services.

Narain (2003)\textsuperscript{58} states that the British experience of regulation shows that, if left alone, the utilities can not be relied upon to treat their customers fairly and to provide the required services in an efficient and economic manner. Quoting an IMF study he states that privatization would be most efficient if it were preceded by institution building and the establishment of an appropriate regulatory framework. According to him, the policy of ‘privatization now and regulation later’ has often failed because early privatization has created strong vested interests to block the later attempts at regulation.

Baijal (2004)\textsuperscript{59} called for a need to view the USO as ‘Universal Service Opportunity’ instead of ‘Universal Service Obligation’. He believes that with almost 70 per cent of our population living in rural and semi-urban areas, it has to be recognized that these numbers are India’s core strength. In the telecom sector this market has been seen as an ‘obligation’. He opines that unless we convert the USO into a ‘Universal Service Opportunity’ we will not be able to harness the full potential of the majority of our population.

Chowdary (2004a)\textsuperscript{60} suggested that when as promised by the Telecommunication Regulatory Authority of India (TRAI), the National Long Distance, International Subscriber Dialing and internet service are also brought into the unified license, India will have one of the most facilitative telecom service regimes in tune with the convergence of technologies for telecoms, computers, internet and broadcasting. He commended the phenomenal growth (about 22 million per year) in the number of phones in the country, deep reductions of up to 80 per cent in the prices for various telephone services and the achievement of the 7 per cent tele-density target, before time.

\textsuperscript{58} Laxmi Narain (2003), \textit{Public Enterprise Management and Privatisation}, New Delhi, S. Chand & Company Ltd., pp. 305-308.
\textsuperscript{59} Pradip Baijal (2004), "USO and Rural Connectivity: Not an Obligation but an Opportunity", \textit{Economic and Political Weekly}, Vol. XXXIX, No. 49, December 4-10, pp. 5201-03.
Chowdary (2004b)\textsuperscript{61} tracing the reforms in the telecom sector from the 1990s, says that the unleashing of private sector enterprise, initiative and competition in the telecom sector has yielded spectacular benefits for consumers like, non-requirement of operators; non waiting period; reduction in tariff; voice clarity; anytime anywhere communication; affordability for all classes. He opines that further policy changes and greater transparency in the working of the regulatory bodies are now needed to keep pace with the rapid changes in the sector. He laments that the entry fees and revenue shares imposed on the P-telcos are now going to the finance ministry, to reduce budgetary deficits. He suggests that these must be either reduced to nominal amounts to cover costs of licensing and regulation, or must in full constitute a fund for the development of telecom and information services including research. He states that TRAI must not be rehabilitation centre for retired government officers, especially from DoT and Young, energetic, domain-proficient professionals from outside government should also be inducted.

Daily Times (2004)\textsuperscript{62} mentions that speaking at the inaugural session of the sixth meeting of the South Asian Telecommunication Regulators Council (SATRC), the Information Technology (IT) Minister Awais Ahmad Khan Leghari said that independent telecom regulators can best take care of the interests of consumers and the business community in Pakistan and other South Asian countries. He stated that the regulatory bodies had an important role to play in the promotion of Information Communication Technologies (ICT), which had gained importance all over the world as being crucial for socio-economic development.

Humphreys (2004)\textsuperscript{63} notes that in telecoms, the major stimuli to the paradigmatic change that has occurred since the 1980s in regulation and industry structure (from monopoly to competitive market) were globalization

\textsuperscript{63} Peter Humphreys (2004), "Globalization, Regulatory Competition, and EU Policy Transfer in the Telecoms and Broadcasting Sectors", in David Levi-Faur & Eran Vigoda-Gadot (Ed.), International Public Policy and Management: Policy Learning Beyond Regional, Cultural, and Political Boundaries, New York, Marcel Dekker, pp. 91-120.
pressures combined with technological change in the information and communications industry at large. He observes that the divestiture of AT&T demonstrated to the world that telecoms was no longer a natural monopoly and that introducing competition brought gains in terms of efficiency, innovation, consumer choice, better service quality, and reduced prices. He opines that telecoms deregulation in the United States triggered a process of global regulatory competition as states sought to maintain the competitiveness of their telecoms industries by adopting liberalization, albeit a domesticated variant thereof.

Mukherji (2004)\textsuperscript{64} observes that regulated privatization and competitiveness were a necessary consequence of embracing global economic integration. Regulation needed to precede privatization in those sectors where the government had a monopoly like telecommunication and power. He opines that the regulator’s task was to stand as an independent policy advisor and adjudicator between the government and the aspiring private producers. Further he notes that regulators needed to be financially independent, with specialized skills in the relevant area, and, free from capture either by the government’s producer or by the private producer. Stating that Independent regulation poses a puzzle for democratic functioning; he asks that ‘As the power of the regulator increases, who is the regulator accountable to?’- especially considering the fact that the regulator has adjudicative, legislative and executive functions but does not have the mandate of the people. He presents two views in this regard; one that the regulator should be exposed to public scrutiny, and that advisory committees may hold sessions in public and another that a standing committee of the parliament and the relevant committee within the state legislature scrutinize such recommendations, wherever necessary.

Sarada and Singh (2004)\textsuperscript{65} state that the entry of private sector into core areas of infrastructure like power and telecommunications have necessitated that appropriate regulatory framework is put in place to avoid


unhealthy competition and to ensure reasonable price of services and products to the citizens. With diminishing role of Government and emergence of private sector in new areas, regulatory framework assumes importance. Therefore, regulators are required to function in judicial, impartial and transparent manner. Regulatory bodies have an important task to create a suitable condition for Public Private Partnership (PPP) besides attracting additional financial resources for economic growth. They further opine that regulatory framework needs to be evolved cautiously and carefully so as to provide level playing field to all stakeholders, better services at low cost to consumers, more jobs and overall better quality of life to every one.

Sridhar (2004)\(^{66}\) states that Telecom policies should be developed to foster the positive effects of network externalities, which enable the building up of a critical mass of users for services, thus motivating further growth. Talking about the telecom sector he opines that once there is a ‘critical mass’ of users of innovations and technologies, network externalities can motivate further growth in this sector. He further observes that an important implication of network externalities is for ‘number portability’. Larger mobile operators are opposing number portability across service providers. In the absence of number portability, the subscriber is ‘locked in’ to a particular service provider due to direct and indirect costs of changing numbers. He suggests that the policies and industry consensus should be developed to foster the positive effects of network externalities in telecom and curb its negative effects.

Thierer (2004)\(^{67}\) observes that slowly but surely, change is coming to the world of telecommunications regulation. He says that sluggish pace of reform in the eight years since the passage of Telecommunications Act of 1996 is bound to change and the recent developments prove that central planning is finally starting to give way to a future of free markets and consumer choice. He further states that there is the chance that we can close the book on the traditional public utility, litigation-oriented regulatory regime and replace it with a marketplace governed by property rights, pricing

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freedom, and voluntary contracts. Thierer believes that though the old regime is not dead yet, but its days seem numbered.

Virmani (2004)\textsuperscript{68} talks about TRAI’s recommendations making effective de-licensing possible through a system for ‘automatic licensing’, subject to transparent published guidelines. However, as the Spectrum permits are, still strictly controlled by the spectrum advisor with no provision for trading, the article calls for the regulatory authority to reconsider this issue.

Agarwal (2005)\textsuperscript{69} notes that though Indian telecom sector is booming, with the number of subscribers having crossed the 100-million mark and tariffs have tumbled to be the lowest in the world, even then, 30% of mobile subscribers are willing to shift to an operator offering better service, according to a recent study conducted by the International Data Corporation. He opines that this is not surprising, as with growth, quality of service has taken a beating too. He reports that TRAI’s data shows a significant increase in consumer complaints. Network congestion, call drops, etc., are common complaints. Interconnectivity between GSM providers and non-GSM or DoT systems appears to be intentionally sabotaged, and it takes many attempts to connect. TRAI’s Quality of Service (QoS) survey reports that the billing parameters of all operators are below established norms. He laments that providers have found ways of fattening their coffers by charging for unwanted services, e.g., SMS undelivered or sent to invalid numbers gets charged.

Chakraborty & Chakravarti (2005)\textsuperscript{70} reports that recently TRAI proposed a Rs 8,000-crore subsidy for creating necessary infrastructure in rural areas to raise the teledensity there from the current sub-2% to 15% by 2007. They note that while the telecom story is perceived to be a success, its impact on rural India has been insignificant. They lament that India’s rural populace hardly has any mobile coverage, despite accounting for 70% of the country’s population. They opine that one of the main reasons for the low


\textsuperscript{69} M. Agarwal (2005), “Are Telecom Service Norms Okay?”, The Economic Times, New Delhi, September 5.

\textsuperscript{70} Reena Chakraborty & Shivom Chakravarti (2005), “TRAI sets tone to connect the countryside”, The Economic Times, New Delhi, October 13.
teledensity is - the cost involved in setting up infrastructure in the rural areas is high, and recoveries could be lower as there are not many users.

C-CIER & Planning Commission of India (2005)\textsuperscript{71} dwelt upon the deficiencies in existing regulatory approaches. It was observed that more than ten years’ experience of independent regulation in India suggested that the government has not been able to create and follow a cogent and coherent approach vis-à-vis independent regulation. Quite often, the policy objectives that the government wishes to achieve out of independent regulatory regime are not spelt out clearly in the legislation. At times, the regulatory mandate falls short to achieve the stated policy objectives and multi-stakeholder approach is nearly missing in most of the sectors. It was regretted at the seminar that even good practices in one sectoral regulatory legislation, hardly find place in others. The seminar noted that the appointment and removal of regulators is practically left with the executive for their discretion, and these ‘independent’ bodies are not empowered to even determine the nature and number of their staff or to appoint consultant without approval of ministry concerned. It was lamented that presently, regulators at large are not putting adequate efforts to proactively reach out and engage different stakeholders in consultations.

Doraiswamy (2005)\textsuperscript{72} expresses that the transition of the economy from being a regulated one to a deregulated one is a momentous step. But if a deregulated economy is not to lead to cut-throat competition or predatory exploitation of the consumer, it does need some transparent, normative regulation. Raising a query that “why do we need a regulator in a liberalized economy?”, he answers that there are some sectors like power and telecom, which are considered natural monopolies and where it is not possible to promote the type of intense and widespread competition as in common consumer goods. In such areas, once the government withdraws control, there is need for a regulatory authority. Discussing the challenges before

\textsuperscript{71} Cuts Centre for Competition, Investment & Economic Regulation (C-CIER) and Planning Commission of India (2005), Seminar on “Regulatory Framework for Infrastructure Sector in India, 14th January, New Delhi, http://www.cuts-international.org/RptRegFrmwork140105.htm.
regulatory authorities, he states that the danger is real because the regulatory bodies may sometimes be manned by people from the bureaucracy or from the very public sector organizations they are supposed to regulate, and the earlier attitudes and mindsets are liable to be carried over to their new job.

Gairola (2005)\textsuperscript{73} notes that under number portability, a subscriber can retain his/her number even while switching to a new service provider. He reports that TRAI will soon initiate the process of putting in place a number portability regime, initially limiting it to mobile services, as TRAI feels there isn’t much competition in fixed services, and sees no need to implement number portability here. He notes that however, the biggest obstacle in number portability is that it increases infrastructure cost by about 10%, and this may lead to an increase in tariffs and therefore there may be opposition from some segments on this count.

Ghuman & Mehta (2005)\textsuperscript{74} observe that de-regularization of telecommunication services in India has resulted in tremendous growth of the sector, with a number of players entering the telecom arena and competing with one another, resulting in quantitatively and qualitatively better services to the users.

Government of India (2005a)\textsuperscript{75} opines that in order to attract private investment in infrastructure sectors it is necessary to have independent regulatory authorities which would carry credibility with both consumers and producers, and also ensure a level playing field between incumbent public sector service provider and new private sector entrants. Mid-term appraisal observes that regulators have been established in some of the sectors and some additional regulators are proposed to be set up and it is necessary to review the regulatory system that has evolved and see what changes, if any, are needed to bring our regulatory structure in line with international best practice.

\begin{itemize}
\item \textsuperscript{73} Manoj Gairola (2005), “Keep the number, kick the network”, The Economic Times, New Delhi, June 30.
\item \textsuperscript{75} Government of India (2005a), Mid-Term Appraisal of the Tenth Five-Year Plan (2002-2007), Part I - “Overview and Priority Areas for Action”, Planning Commission, New Delhi, p 12.
\end{itemize}
Prabhu (2005) notes Pradip Baijal’s statement that the government should facilitate rural connectivity not by subsidies, but by support from USO fund, free right of way, modest spectrum charges and sharing of telecom infrastructure between competitors and a one time spending of Rs. 9,000 crores would open up the rich potential of the rural sector.

Rani (2005) notes that though India is still far from becoming an ‘information society’, but with a significant number of its workers employed in the information sector, it provides fertile ground for analyzing the impact of the new technologies on its society, including their crucial role in the development process. The authors discuss extensively India’s path to development through what they call ‘informatisation’ strategy, in which new communication technologies are harnessed for socio-economic advancement.

Shourie (2005) opines that Regulatory bodies, especially in sectors in which technological advance is rapid, should have persons who are well-versed in technologies. He suggests that the regulators must be on the look out for prospective changes in technology, they must assess what impact their decision is going to have on adoption of new technologies. Addressing the call by many asking TRAI to step in and “end the confusion”, and “bring order” to the multiplicity of “Packages” that the telecom companies are holding out to consumers, he opines that there are close to six hundred price-cum-credit-cum-service packages on offer in telephony and it would be beyond the capability of the regulator to assess and inspect. Instead, he suggests that some rule for instance, that an operator who offers a low price shall not revise it upwards for three years – that the operator may lower it further, but he will not raise it, would be of help.

Sridhar (2005) & The Economic Times (2005a) note that TRAI is severely resource constrained and calls for the need for the government to

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78 Arun Shourie (2005), Governance and the Sclerosis that has set in, New Delhi, ASA Publications, pp. 69-92.
expand the offices of TRAI so that it has enough manpower and resources to operate. Noting that financial independence is a crucial part of complete operational freedom, they opine that TRAI should also be made financially self-sustainable with funding being made available from the license fee paid by the operators. They mention that the other regulators such as SEBI and IRDA are able to generate adequate funding on their own while TRAI depends on the government for its operations. They point that it is a common knowledge that regulators do their job well only if they are insulated from external influences, especially when the government itself is a big player in the regulated industry.

The Economic Times (2005b)\(^81\) reports that in an attempt to save the customers from paying hidden charges, TRAI disallowed tariffs plans with misleading titles like 'zero rentals' and directed telecom operators to show all monthly fixed recurring charges under one head for the purpose of transparency to the subscribers. The report further notes that the regulator said it intends to put an end to the practice of operators splitting the monthly fixed charges, as 'when all fixed charges are clubbed under one head, it would be easy for the subscriber to make a choice from among all tariff plans available in the market'.

Zarabi (2005a)\(^82\) notes that the proposed 'One-India' uniform tariff plan for phone calls will actually be composed of two types of call rates, with the current local call rates remaining as they are while long distance rates recalibrated into a single rate for the rest of the country. The report quoting DoT source states that the move was not aimed at circumventing the role of the telecom regulator in determining tariffs and that the pricing remains with TRAI. The source further states that there are no differences between DoT and TRAI and that the DoT supports the complete independence of the regulator, but is responsible for policy.

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81 The Economic Times (2005b), ”TRAI bans tariff plans with misleading titles”, New Delhi, September 16.
82 Siddharth Zarabi (2005a), ”Local Call Rates Out of One India Plan”, Hindustan Times, New Delhi, August 29.
Zarabi (2005b)\textsuperscript{83} and (2005c)\textsuperscript{84} notes that Indian cellular networks are reporting heavy congestion, its magnitude having reached alarming levels in the recent past. Referring to the results of a study by TRAI which revealed that the congestion level was 20 times worse than the benchmark limit of 0.5 percent; it states that using a mobile has become a frustrating experience for the last few months. The massive increase in network congestion is blamed on the non-availability of adequate interconnection capacity due to long lead time stipulated in interconnect agreements for providing junctions, delay in providing interconnection and the lack of direct inter-connectivity between the networks.

Zarabi (2005d)\textsuperscript{85} notes with caution that the draft new telecom policy 2005-06 prepared by DoT hints at putting in place an oversight system to 'review the activities of the regulator'. The report notes that at present, TRAI is accountable to Parliament and critics say that this needs to change as Parliament cannot exercise enough technical and regular supervision of its policies. They add that more qualified and regular supervision is necessary – akin to 'regulating the regulator'.

Zarabi (2005e)\textsuperscript{86} observes that the draft New Telecom Policy 2005-06 proposes the setting aside of universal service obligation funds into a separate account instead of the Consolidated Fund of India.

Bamzai & Rajendran (2006)\textsuperscript{87} notes that the new telecom regulator Nripendra Misra has asked operators to develop a consensus on interconnect and other contentious issues. It was further reported that Misra believes wireless technologies like Wi-Max would usher in the next explosion vis-à-vis rural penetration of telecom services.

\textsuperscript{83} Siddharth Zarabi (2005b), "Why Are All Lines on this Route Busy?", Hindustan Times, New Delhi, November 3.
\textsuperscript{84} Siddharth Zarabi (2005c), "Interconnection: Wires Remain Crossed", Hindustan Times, New Delhi, November 7.
\textsuperscript{85} Siddharth Zarabi (2005d), "Regulating the Regulator?", Hindustan Times, New Delhi, November 21.
\textsuperscript{86} Siddharth Zarabi (2005e), "Focus on Spectrum Roadmap", Hindustan Times, New Delhi, November 22.
\textsuperscript{87} Sandeep Bamzai & M. Rajendran (2006), "Misra for Consensus", Hindustan Times New Delhi, March 31.
Chhina (2006) reports that in order to save cellular subscribers from the high cost of receiving unsolicited telemarketing calls while on international roaming, the Telecom Regulatory Authority of India has ordered that a special ringtone be created which will inform the calling party that the person being called is on international roaming. TRAI had noted that during international roaming, the subscribers generally do not receive the Caller Line Identification (CLI) calls from India. In the absence of CLI, it becomes difficult for the roaming subscriber to identify and choose the calls he wants to answer. This problem has become more acute due to increased number of telemarketing calls. With the international roaming charges being high, the TRAI has considered it imperative that the subscribers should have the option to escape from this avoidable heavy burden.

Gulati (2006) opines that the spread of telephony to rural and backward areas is critical to ensure uniform and rapid economic growth of a country. According to her in order to compete effectively, a country must have connectivity. She states that it has been established by international studies that every one per cent increase in teledensity has the potential to effect a three per cent increase in the rate of growth of GDP. She highlights that India was a stark example of digital divide with urban teledensity being as high as 40.65 per cent and rural teledensity being abysmally low at 1.85 per cent. She emphasizes that narrowing these gaps and removing the barriers to information dissemination and access to knowledge is a priority for promoting sustainable development and poverty alleviation.

Hindustan Times (2006a) writes that anguished at the deteriorating quality of telecom services and the failure of operators to comply with numerous orders sent to rectify it, TRAI sent show-cause notices to six service providers; in the process TRAI has also rejected the contention of Cellular Operators Association of India that unless the interconnection matters are resolved they should not be directed to ensure Quality of Service. The


report reveals that it was noticed at several places the level of congestion of some of the operators was in the range of 80 per cent to 95 per cent. This meant that out of 100 calls, 80 to 95 calls failed, leading to total chaos in inter-network communications and heavy customer dissatisfaction and almost a collapse of the service.

Hindustan Times (2006b)\textsuperscript{91} reports that TRAI Chairman Nripendra Misra has sought an extension of the tenure of Chairperson and the Members of the Authority from three years to five years besides seeking more powers for the regulator. According to him, the three year tenure was rather short for making effective contribution to the sector. The Competition Act and IRDA Act contain provisions prescribing a tenure of five years for the chairperson and the members.

Kalra (2006)\textsuperscript{92} laments that the successive ministers have treated the regulator as no more than a doormat. He observes that in terms of tariff, interconnectivity, number portability, and quality of service, among others, the regulator is supposed to be supreme, but, the operative word is ‘supposed’. He further notes that though, corporate interests are involved in everything yet, it cannot be at the cost of a consumer, whose interest is supreme in any regulator’s mandate. He talks about the interconnect issue and observes that the regulator has been a mute spectator even as the quality of service has deteriorated on this count.

Kumar (2006)\textsuperscript{93} notes that private players in telecommunication sector command a combined market value of $60 billion, or Rs. 2,75,000 crores. They exclude state owned Bharat Sanchar Nigam Limited (BSNL) and state controlled MTNL. Analysts say that the trend clearly shows that by the end of 2010 when the industry’s subscriber base was expected to be around 350 million, up from the current 160 million, telecoms would emerge as the biggest wealth creator. India is the world’s fastest growing wireless market, with a net addition of five million plus subscribers every month. The experts believe that

\textsuperscript{91} Hindustan Times (2006b), “TRAI Head Wants Longer Tenure”, Chandigarh, Tuesday, August 15.


potential for growth is huge with wireless penetration still at 10.4 per cent and telecom penetration at 14.4 per cent.

**Mahapatra (2006)**
Mahapatra (2006) welcomes the Supreme Courts order of 28th March, which according to him gave back teeth to the regulator and who can now ‘bite’ a service provider who offers a dream scheme to lure people as its subscribers, only to leave them high and dry by discontinuing it a few months later. According to him the order will help TRAI regulate offers like the recently-launched lifetime validity products better. The order is being seen as a boost to enforcing consumer rights as operators can no longer ignore TRAI’s directives.

**Prasad (2006)** laments that the teledensity in rural areas stagnates at 1.7 per cent against the national average of 9.6 and the technological revolutions in the field of mobile telephony and wireless communications have not reached the rural and remote areas of the country. He further notes that drawing a lesson from the Chinese example, India’s policy-makers should revitalize the concept of Universal Service Obligation (USO). Telecom operators should be legally obliged to discharge their USO and their license agreement should explicitly specify this obligation.

**Singhvi (2006)** opines that the Tribunalisation of justice started long ago and had now reached gigantic proportions. According to him, lawyers and judges frequently criticize the creation of such bodies. But the criticism becomes muted when judges realize that they were unable to deliver justice expeditiously through normal Court system and lawyers realize that they were usually able to appear and practice at such diverse fora. He further opines that though Tribunals have undoubtedly eased the burden on courts, yet they need several fundamental reforms to make them efficacious justice delivery vehicles. He suggests creating a centrally located ‘Tribunal Bhawan’. Further the tribunal’s statutory size must be fixed after a scientific and statistical survey of the subject it was designed to deal with. He observes that many

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tribunals have no staff of their own and are frequently staffed entirely by people borrowed from government and/or other undertakings usually on deputation. These people have no special qualifications and no special experience of judicial or technical work. Hence no spirit de corps and no commitment for or stake in the institutions could be created.

The Economic Times (2006)\textsuperscript{97} reports that keeping the consumer's interest in mind, telecom regulator TRAI ordered that telecom companies promising schemes of lifetime validity in mobile connectivity cannot increase tariffs in such schemes during the entire period.

The Hindu (2006a)\textsuperscript{98} notes that Telecom Regulatory Authority of India has decided to seek compliance reports on six parameters from all telecom service providers every year so that better implementation of the various customer protection measures can take place. In order to ensure this, it has set out a six-point checklist which included prohibiting levy of migration charges by cellular service providers; mandating cellular service providers to carry forward unused balance during the grace period at the time of recharge by pre-paid subscribers; presentation of format for publication/advertisement of tariff for consumer information; prompt refund of security deposit to the customers within a prescribed period; prohibiting telecom service providers from offering tariff plans with misleading titles; and mandating all access providers to inform credit limit for post-paid customers in writing.

The Hindu (2006b)\textsuperscript{99} reports that the Telecom Regulatory Authority of India has issued an amendment to the Interconnection Regulation to streamline arrangements among service providers for interconnection and revenue sharing for all broadcasting and cable services. It stipulated a notice period of three weeks for disconnection of TV channel signals by a broadcaster to any distributor of TV channels. Similarly distributors also have to give three weeks' notice prior to disconnection of any TV channel. The

\textsuperscript{97} The Economic Times (2006), "Telcos can't hike tariffs in lifetime schemes", New Delhi, March 22.
\textsuperscript{98} The Hindu (2006a), "TRAI Calls for Regular Report from Telcos", Saturday, July 15.
\textsuperscript{99} The Hindu (2006b), "TRAI Amends Interconnection Regulation", Wednesday, September 6.
amendment to the regulation also made issuing of public notices in newspapers about the disconnection of TV signals compulsory.

The Hindu (2006c)\textsuperscript{100} reports that TRAI announced the recommendations for the introduction of faster mobile services, i.e. the 3G (or third generation) services, which would enable video streaming and data-intensive services such as stock transactions, e-learning and telemedicine through wireless communications. The services were expected to be expensive initially, but with the intensification of the competition and fall in equipment costs, they could become relatively cheaper. TRAI had recommended the setting up of a National Frequency Management Board to sort out spectrum usage and allocation issues since it was a scarce resource. It also wanted the Government to impose a time-bound rural network rollout obligation on the companies to ensure even spread of 3G services all over the country. It asked for stiff penalties for hoarding and non-compliance with rollout obligations.

The Hindu (2006d)\textsuperscript{101} reports that concerned over huge revenue loss due to grey market operations and slow broadband offtake; the Telecom Regulatory Authority of India (TRAI) plans to review the policy of Internet services. The loss of government revenue, unlicensed operation by certain firms and depleting market share of licensed operators are some of the reasons that necessitated a review of the policy of Internet services and ISP licensing conditions. TRAI observed that though 389 ISPs have so far been given licenses to operate Internet services, the top 20 cover 98 per cent subscribers. Similarly, while Internet telephony has been permitted to 128 ISPs, only 32 are providing the service. With the slow growth of Internet and broadband, it is not likely to achieve the target of 18 million Internet subscribers and nine million broadband connections by 2007.

Chauhan (2007)\textsuperscript{102} reports that the National Knowledge Commission Chairman, Sam Pitroda said that the public sector telecom major BSNL could

be sold and the proceeds invested in education. According to Pitroda BSNL could fetch Rs. 8,000 crores which should be enough to take care of the immediate needs of the education sector. He further stated that he did not understand what business government had in telecom sector. He opined that BSNL was bound to lose its value with the private sector’s market share increasing and by selling it now government would get good money. He also admitted that such a ‘bold decision’ would require ‘a lot of guts’.

Gopalakrishnan (2007)\textsuperscript{103} reports that different segments of the telecommunications industry of United States of America have appealed to United States Trade Representative (USTR) to work for removal of ‘stringent’ restrictions imposed by India, even while acknowledging and welcoming the liberalizations that have been effected by the Indian Government and Telecom Regulatory Authority of India (TRAI) in recent years. In its representation to USTR, the Voice on the Net (VON) coalition emphasized that VoIP is not a new kind of telecom service but a whole new frontier in communications requiring a new forward looking framework and not mere a reflexive application of legacy telecom regulations. The report notes that owing to restrictions imposed by TRAI, VoIP could not be used to access India’s traditional telephony devices thereby curbing the growth of VoIP and limiting the potential of technology to expand communications opportunities. It also criticized the burdensome and in some cases nonsensical quality of service (QoS) requirements for long distance VoIP services which were not applied elsewhere.

Iyer (2007)\textsuperscript{104} notes with sadness that if one thought that merely signing up for the National Do Not Call Registry (NDNCR) would mean one stops getting unsolicited calls, one was wrong. Illustrating by giving suitable examples from her own experience, the reporter makes the point that despite the promised stoppage of unsolicited calls within 45 days; the promotional calls from insurance agents and telemarketers continued. Despite her repeated attempts, firstly even her complaint was not lodged, leave aside

redressing her grievance. Secondly, service providers keep on passing the buck and dilatory tactics are employed, but no significant progress takes place on NDNCR front. The service provider stated that since the TRAI NDNCR was still evolving there would be a range of complaints that none of the telecom operators would be able to address at this point of time.

Joshi (2007)\textsuperscript{105} highlights that the Telecom Regulatory Authority of India has provided a major relief to those using mobile phones while traveling by announcing a reduction in roaming tariff up to 56 per cent, besides abolishing roaming rental charges and surcharge on national roaming services. The new tariff order would also mean that subscribers would not only receive free SMS while roaming, but would also not be required to pay any separate Public Switched Telephone Network (PSTN) charges. The regulator has also clarified that mobile operators can not charge any type of fixed or recurring charges for accessing the roaming facility – monthly, weekly or daily rental. TRAI stated that it would closely monitor market developments on roaming and if perceptible competition evolves, will revisit the issue and even consider forbearing roaming tariffs.

Khatri (2007)\textsuperscript{106} reports that the Department of Telecommunications (DoT) enunciated its policy that licenses could be had by unlimited entry and aspirants who entered the fray after the telecom regulator allowed unlimited players in August could use landlines to join the industry, dashing their hopes of soon getting spectrum somehow. It was also revealed that three CDMA players had won permission to enter GSM technology-based services. In addition it was told to the GSM operators that further spectrum would be linked to subscriber growth. DoT’s unit, Telecom Engineering Centre (TEC) would monitor spectrum usage to decide on allotments.

Mehta (2007)\textsuperscript{107} highlights that independent regulation is a relatively recent phenomenon, particularly in developing countries, including India. The basic premise of independent regulation is that specialized agencies that are


\textsuperscript{107} Udai S. Mehta (2007), “Developing Country Paradigm to Regulation”, \textit{The Hindu Business Line}, Friday, June 22
independent of influence from stakeholders can make rational decisions and achieve the policy objectives of growth, investment and effective service delivery at efficient prices. Independent regulation is also supposed to create an enabling and consistent environment to facilitate healthy competition. It demands transparency and active participation by all the stakeholders concerned.

Murthy (2007)\textsuperscript{108} on the 60\textsuperscript{th} year of its independence lists eight major achievements that have transformed the lives of Indians in ways they never imagined would happen. These included green revolution; white revolution; economic reforms of 1991; independent media; telecom revolution; space technology; atomic energy; and software revolution. Talking about telecom revolution, he states that no other technology has brought India (the urban and the rural) together as the 500 line EPABX designed and implemented by the Centre for Development of Telematics (C-DOT) under the leadership of Sam Pitroda.

Parthasarathy (2007)\textsuperscript{109} reports that one can make calls from a handset, without having to go to the Web Video telephones and can see the called person as one speaks. Mumbai based broadband provider YOU Telecom will offer for the first time in the country, video telephony services based on the affordable Voice over Internet Protocol (VoIP) technology – that is instead of going through the landline or mobile channels one can route the calls over internet. The price of handsets that company has sourced from Taiwan has been put at Rs. 17,000. The CEO of the company feels that price should drop internationally to around Rs. 5,000 within a year. The reporter notes that worldwide, the ability of the Internet to efficiently carry telephone voice and video traffic is being exploited by governments and industry to bring down the cost for millions of users who could hitherto not afford to make long distance and international calls. However, the Indian Government has not allowed the public STD booths to harness the cheaper VoIP option for person-to-person calls.

\begin{itemize}
\item \textsuperscript{108} Narayana N.R. Murthy (2007), "Eight Areas of Success", Independent India at 60, \textit{The Hindu}, Wednesday, August 15.
\item \textsuperscript{109} Anand Parthasarathy (2007), "See the Speaker as You Talk Over Phone", \textit{The Hindu}, Sunday, January 7.
\end{itemize}
Rajendran (2007a)\textsuperscript{110} states that ‘roaming’ is the facility enjoyed by mobile users which enables them to make and receive calls, send text messages and access all other services even when they carry their mobile outside the geographical coverage area of the network to which they subscribe. As the subscriber moves out, he is automatically transferred to one of the networks in the area he is visiting. Different operators were levying different roaming charges within the country as there were no rules or limits laid down. Consumers groups were agitated and have been asking TRAI to stop displaying ‘forbearance’ – as the practice of letting operators fix their own tariffs in telecom parlance is called – and fix a ceiling tariff. The crux of the matter is that consumers should not be made to pay more than the cost incurred by operators on providing roaming facilities. Quoting examples from countries such as France and Germany where there were no roaming charges, telecom consultants have questioned the rationale for imposing roaming charges especially by national operators as they never have to transfer a traveling subscriber to any other network.

Rajendran (2007b)\textsuperscript{111} has highlighted that on one hand cellular operators, the government and regulators in India were ecstatic about millions of net addition in the subscribers each month as well as the lowest call rates in the world, however, on the other hand, the consumer was facing poor quality of service. He in his study found that conversations on mobile phones were usually interrupted by call drops or disturbance in the line. This resulted in additional cost to the consumers and at the same time additional revenue to the operator, since consumers were charged, even if the call was disconnected. The operators blamed lack of spectrum availability for call drops and poor connectivity. The experts however stated that inefficient use of spectrum by operators and the allocation policy of the government were to be blamed for poor network quality. Some experts have blamed TRAI for having failed to monitor the efficient use of the network.

The Hindu (2007a)\textsuperscript{112} reports that faced with a total opposition from mobile operators on reducing roaming tariffs, the Telecom Regulatory Authority of India (TRAI) said it might enforce a regulation for the purpose but would first explore all options to arrive at a solution. The TRAI Chairman Nripendra Misra stated that the regulator would again discuss the matter with the Cellular Operators Association of India (COAI) and the Association of Unified Service Providers of India (AUSPI) to reach a resolution. TRAI had proposed to revise the existing roaming tariff by fixing a ceiling based on usage. This means there would not be any rental charges but only a composite roaming tariff on a per-minute basis.

The Hindu (2007b)\textsuperscript{113} reports that in order to help faster growth of mobile services in rural and remote areas, the Telecom Regulatory Authority of India (TRAI) has recommended sharing of telecom infrastructure among service providers. The regulatory body has emphasized the need for cooperative efforts among telecom service providers with least regulatory intervention as being followed internationally for faster rollout and better quality of services. In its recommendations forwarded to the Department of telecommunications (DoT), TRAI has not only asked for sharing of passive infrastructure (physical sites, towers and power supply), but has also called for sharing of active infrastructure (antenna systems, cables and transmission system) and backhaul (core infrastructure involving switches and networking) on a \textit{suo motu} basis. It is hoped that infrastructure sharing would help in reducing the cost of service provisioning, making mobile services better and cheaper.

The Times of India (2007)\textsuperscript{114} reports the analysis of TRAI that congestion in the networks was increasing rapidly. It was stated that sadly TRAI’s powers on interconnection have become a matter of legal dispute, so there was very little that the regulator could do, except put out reports and analysis. The telecom regulator had been monitoring the level of congestion at Points of Interconnection (POIs) between various service providers on a

\begin{flushright}
\textsuperscript{113} The Hindu (2007b), “TRAI Proposes Sharing of Telecom Infrastructure”, Thursday, April 12.
\end{flushright}
monthly basis. This parameter signifies the ease by which a customer of one network is able to communicate with a customer of another network. It also reflects the effectiveness of interconnection between two networks. The benchmarks notified by TRAI in its Quality of Service (QoS) Regulation suggest that out of 200 calls between two operators, only one call should face the congestion problem. TRAI's analysis however, revealed that in a number of areas, the degree of congestion was 'alarming'. The report was based on the study for months of October, November and December 2006.

Prabhu (2008)\textsuperscript{115} highlights that the relationship between politics and regulation has been the subject of both public and political discourse for quite sometime now. He opines that in India the independent regulator took over the functions which were earlier exercised within the governance system at the ministerial level. This transfer of regulatory functions from a ministry to an independent regulator has probably not been an easy development to accept and adapt to. He concludes by stating that States often act as manipulators by creating weak regulatory institutions, over which they continue to exert control and further their interests and therefore it was high time to put an end to this practice of consciously politicizing regulation.

The Hindu (2008)\textsuperscript{116} reports that the Telecom Regulatory Authority of India has allowed unrestricted Internet telephony services, permitting National Long Distance (NLD) operators to connect to Internet Service Providers (ISPs) through public Internet. TRAI envisaged that customers would benefit from the cost effective and innovative internet telephony service and grey market tendencies could also be curtailed. The STD service providers would be connected to the ISPs through public internet for the purpose and the two service providers would have mutual agreement for the same. It would allow calls from personal computers to fixed line and mobile phones.

\textsuperscript{116} The Hindu (2008), “TRAI Lifts Curbs on Internet Telephony”, Tuesday, August 19.
The Tribune (2008)\textsuperscript{117} notes that TRAI had asked telecom operators to waive the processing charge on the top-up cards which would result full talk time on such recharges. According to TRAI, this would mean that users would pay just an administrative fee not exceeding Rs. 2 per recharge and other applicable taxes. This was seen as one among many initiatives taken by the regulator for making the telecom service more consumer-friendly and transparent. The regulator had also directed that there shall be no barrier when a consumer migrates across plans or from post-paid to pre-paid and vice-versa.

Choudhury and Gairola (2009)\textsuperscript{118} reports that the government has drawn out a grand scheme to put nearly 5 lakh villages across the country on the high-speed wireless broadband map in the next five years. According to them, the villages that already have necessary infrastructure such as tower and power would be identified for rolling out the network. Bids would be invited from telecom service providers, and the successful ones would be given financial subsidy. According to the reporters, this subsidy will be provided from the Universal Service Obligation Fund (USOF) that is raised through a 5 per cent levy imposed on telecom operators’ revenues.

Kaura (2009)\textsuperscript{119} reports that the Finance Minister, Sh. Pranab Mukherjee while presenting the Budget announced that the government expects to garner as much as Rs. 35,000 crore from the auction of third generation (3G) spectrum. This figure was much higher than that announced by him while presenting the Interim Budget earlier (Rs. 20,000 crore). The reporter notes that the auction process had been delayed several times mainly due to the differences prevailing between the ministries involved over the pricing of the spectrum and also because the high reserve price kept some of the major players away. The 3G auction would enable telecom

\begin{flushleft}
\textsuperscript{117} The Tribune (2008), "Waive Processing Charge on Top-Up Cards: TRAI", Chandigarh, Tuesday, September 2.
\textsuperscript{118} Gaurav Choudhury and Manoj Gairola (2009), "Broadband for Bharat", Hindustan Times, Chandigarh, Tuesday, July 14.
\textsuperscript{119} Girja Shankar Kaura (2009), "Govt. Expects to Garner Rs. 35,000 cr from 3G", The Tribune, Chandigarh, Tuesday, July 7.
\end{flushleft}
operators to offer high end services like high-speed Internet and video downloads on mobile phones.

Khanna (2009)\textsuperscript{120} highlights that with the state governments failing to come up with a policy relating to erection of telecom towers, cellular infrastructure in the region has failed to keep pace with the growing number of subscribers. She states that though around 1.5 lakh subscribers were added in the Punjab Circle and 1.75 lakh in the Haryana circle every month, in the absence of significant increase in the infrastructure (radio base stations or RBS) vis-à-vis the customer base, consumers continue to face the problems of call drops all the time.

Varma (2009)\textsuperscript{121} reports that telecom operators have been instructed by the telecom Regulatory Authority of India to maintain transparency and clear up their Value Added Services (VAS) portfolios within 45 days. The order came in the wake of large scale user complaints about inadvertently subscribing to services they did not need. The direction states that in all cases of subscription of VAS offers through pressing of star keys or other keys, the service provider shall convey to the subscriber in writing or through SMS/fax/email details of the scheme. TRAI has also directed service providers not to activate chargeable services during a customer initiated call to a third party unless the subscriber’s consent had been obtained. Significantly the order followed a survey of 22,009 subscribers, which found that 24 per cent of respondents had stated that they had not given explicit consent for activating VAS offers.

1.5 SUMMING UP THE REVIEW OF LITERATURE

The major works classified according to the themes and the level of analysis by different authors, while reviewing the literature have been depicted in the Table below:

\textsuperscript{120} Ruchika M. Khanna (2009), “Cellular Infrastructure Fails to Match User Base”, \textit{The Tribune}, Chandigarh, Thursday, July 9.

\textsuperscript{121} M. Dinesh Varma (2009), “Subscribers Welcome TRAI Direction On Value Added Services”, \textit{The Hindu}, Wednesday, April 29.
## Matrix 1.1
Matrix showing Classification and Analysis of the Literature Reviewed

<table>
<thead>
<tr>
<th>Theme</th>
<th>Author/Publication</th>
<th>Gist of Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulation</td>
<td>Rosenbloom (1989); Walsh (1997); Cherunilam (2000); Meier &amp; Rauch (2000); Sengupta (2001); and Mishra &amp; Bhat (2002).</td>
<td>Need for regulatory administration arises to assure the safety of products, services, processes and technologies. The basic argument for government provision of goods and services is based on the theory of market failure.</td>
</tr>
</tbody>
</table>
The deregulated environment has raised new issues such as facilitation of competition; fair price to the consumers; and improvement in the quality of services. In addition, according to the literature, the regulatory regime, in case of telecom sector also deals with fulfilling universal service obligation by enhancing rural connectivity; ensuring improved stakeholders participation in the policy making and implementation; the need for independent regulation; transparent manner of selection of members; facilitating inter-connectiveness between different service providers; issue of licensing/revenue; the need for incorporating the reality of convergence; unsolicited commercial communication; the emerging issues of number portability and internet telephony.
1.6 INFERENCES DRAWN FROM THE REVIEW OF LITERATURE

The review of literature has brought about the importance of telecommunication sector in the field of India's development and the dire need to have a sound regulation policy and authority to take care of this vital infrastructural sector.

Inferences about Regulation:

(i) The need for State intervention arises primarily because in certain circumstances market fails.

(ii) The need for regulatory administration arises, to assure equity and the safety of products, services, processes and technologies.

Inferences about De-regulation and Re-Regulation:

(i) Though the degree of regulation in society is not clear, but a general consensus has emerged that the modern society is over-regulated and hence resulted in problems, like, being expensive, dampening of economic performance, delay and red-tapism, increasing inclusiveness, increased incompetence and corruption. These problems necessitated the case for regulatory reform, i.e., deregulation.

(ii) If left alone the organizations can not be relied upon to treat their customers fairly.

(iii) Deregulation should mean the removal of regulations and not the imposition of new forms of regulation to replace old ones.

(iv) The Government and public policy must be fair and equitable to all enterprises irrespective of ownership and competition should be on equal terms.

(v) In case of telecom sector, though there is a sea-change in the quality of service available to users, but now competitors are loading up the
networks without enhancing their call handling capacity, leading to large-scale congestion in the services.

(vi) TRAI's authority to fix tariffs must be absolute and it is becoming difficult to regulate multiplicity of packages.

(vii) The technological revolutions had not reached to the rural areas, as such; there is a need to view ‘Universal Service Obligation - U.S.O’ as ‘Universal Service Opportunity’.

(viii) There is a failure of TRAI to assist the participation of consumer bodies in its consultative processes in an intelligent and effective manner.

(ix) The regulators needed to be financially independent, with specialised skills in the relevant area, and, free from capture either by the government's producer or by the private producer.

(x) The TRAI must not be rehabilitation centre for retired government officers, especially from DoT. Also Regulatory bodies should have persons who are well-versed in technologies.

(xi) The question of regulating the regulator comes into play and the effective way of regulating the regulator needs to be devised.

(xii) The licensing and policy regime should be technology-neutral and there could be a nominal and not a phenomenal entry fee.

(xiii) The technology was moving towards convergence and therefore, Telecom policy should incorporate this reality and remove the arbitrary technological & geographical segmentation of the market.

(xiv) In the absence of number portability, the subscriber was ‘locked in’ to a particular service provider due to direct and indirect costs of changing numbers.

1.7 INADEQUACIES OF EARLIER STUDIES

(a) Coverage: Most of the studies undertaken so far have covered only one or few aspects of the working of Telecom Regulatory Authority of
India. Thus, they fail to comprehensively assess the working of TRAI from different perspectives.

(b) **Methodology:** Another limitation of the studies done so far is that most of them are descriptive and lacks sound empirical underpinning. The assessment of TRAI in terms of responses by consumers, other stakeholders particularly the consumer organizations and service providers and officials of TRAI have not been taken into consideration by the earlier studies.

1.8 **RATIONALE FOR THE PRESENT STUDY**

In view of the above-mentioned limitations of the earlier studies, the present study analyses comprehensively the functioning of the Telecom Regulatory Authority of India by assessing its role regarding facilitation of competition; monitoring the standard of quality of services; determining tariff structure; compliance of universal obligation of services; involving stakeholders in policy formulation and implementation; and independent regulation, i.e., a multi-dimensional approach is adopted.

Secondly, the present study relies to a large extent upon primary data in addition to the secondary data; thus filling the critical gap of lack of methodological and empirical support to the theory. The primary data was collected from the stakeholders, namely, telecom users Consumer Advocacy Groups/NGOs registered with TRAI; managerial functionaries of telecom service providers; and officials of Telecom Regulatory Authority of India.

1.9 **SCOPE OF THE STUDY**

Telecom services include the basic (both national and international), cellular, internet, very small aperture terminal (VSAT) and paging services. The subject matter is so wide, complex and dynamic that it was most difficult to delve into the complete study of all the services in the sector. The present study therefore due to time and resource constraints has confined only to basic and cellular services.
1.10 PERIOD OF THE STUDY

The Telecom Regulatory Authority of India was set up in 1997 and almost a decade has passed since its inception. Many significant changes have taken place in the TRAI and the telecom sector because of the functioning of TRAI. Therefore the study period covered a decade of TRAI's functioning i.e., from 1997 to 2008.

1.11 OBJECTIVES OF THE STUDY

The objective of this study is to examine the role of Telecom Regulatory Authority of India (TRAI) with reference to the facilitation of competition; monitoring of quality of service; determination of tariff; involving stakeholders in policy formulation and implementation; relationship with government vis-à-vis independence of regulation; and effective compliance of universal obligation of services. Specifically the objectives of the study are to:

1. Study the organizational structure of Telecom Regulatory Authority of India.
2. Examine the role of Telecom Regulatory Authority of India with reference to the facilitation of competition in the telecommunication sector.
3. Analyse the role of Telecom Regulatory Authority of India with reference to monitoring of quality of service provided by the telecom service providers against the norms laid down by it.
4. Study the role of Telecom Regulatory Authority of India with reference to determination of tariff in the telecommunication sector.
5. Examine the role of Telecom Regulatory Authority of India with reference to effective compliance of universal obligation of services on the part of service providers.
6. Analyse the role of Telecom Regulatory Authority of India in involving different stakeholders especially the consumers in the telecom policy making process.
7. Study the relationship of Telecom Regulatory Authority of India with the Government in regard to the independence of regulation.

8. Suggest measures to improve the effectiveness and efficiency of Telecom Regulatory Authority of India as a regulator.

1.12 HYPOTHESES

Keeping in view the objectives of the study, the following hypotheses are formulated:

1. Telecom Regulatory Authority of India has been effective in facilitating competition in the telecommunication sector.

2. Telecom Regulatory Authority of India has been effective in monitoring the quality of service being provided by the service providers against the norms laid down by it.

3. Telecom Regulatory Authority of India, since its inception has been effective in reducing the tariff rates in the telecommunication sector.

4. Telecom Regulatory Authority of India has been effective in ensuring compliance of universal obligation of services on the part of service providers.

5. Telecom Regulatory Authority of India has been effective in involving different stake holders, particularly the consumers in the telecom policy making process.

6. Independence of Telecom Regulatory Authority of India is compromised because of its dependence on Government.

1.13 RESEARCH METHODOLOGY

The study has used both primary and secondary data.

The primary data has been collected through a structured questionnaire for assessing the role of TRAI regarding facilitation of competition; monitoring the standard of quality of services; determining tariff...
structure; compliance of universal obligation of services; and involving stakeholders in policy formulation and implementation.

The data was collected from 400 telecom users based in Chandigarh Union Territory on a random basis. These comprised of 200 basic telephone and 200 cellular mobile users. The questionnaire earlier was pre-tested and suitable modifications were made. Chandigarh was selected as study area, as it is the capital of two prosperous states, namely, Punjab and Haryana and Chandigarh city is amongst the high tele-density cities of India. Another questionnaire was administered to the Consumer Advocacy Groups/NGOs registered with TRAI to assess its role in involving stakeholders in policy making. In addition e-mails were sent to important stakeholders to elicit their opinion about involvement of stakeholders. Third questionnaire was administered to managerial functionaries of telecom service providers to understand their relationship and experiences with TRAI. Interview method was used for collecting primary data from senior officials of Telecom Regulatory Authority of India. In addition observation was used to supplement the collected data (See Table 1.1).

In order to strengthen and facilitate the assessment based upon primary data for the parameters mentioned above, and to assess the relationship of TRAI with Government and its independence, secondary data was collected. The secondary data was collected from TRAI sources such as annual reports of TRAI; consultation papers; press releases of TRAI; recommendation, regulations, study papers and directions of TRAI; survey of standards of quality of services; annual reports of Department of Telecommunications; New Telecom Policies 1994; and 1999; TRAI Act of 1997 and Amendment Ordinance of 2000; journals; books; and newspapers, etc. Use of internet was increasingly relied upon and the websites of telecommunication players, stakeholders and information portals were accessed to gather information and make an assessment of the role of TRAI.
Table 1.1
Research Methodology

<table>
<thead>
<tr>
<th>Sources of Data</th>
<th>Tool for Data Collection</th>
<th>Number of Respondents</th>
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<tbody>
<tr>
<td>Primary Data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Questionnaire Administered to Cellular Mobile Telecom Users</td>
<td>200</td>
<td></td>
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<tr>
<td>2. Questionnaire Administered to Basic Service Telecom Users</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>3. Questionnaire Administered to Consumer Organizations/NGOs Registered with Telecom Regulatory Authority of India</td>
<td>20</td>
<td></td>
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<tr>
<td>4. Interviews Conducted of Officials of TRAI</td>
<td>11</td>
<td></td>
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<tr>
<td>5. E-mails sent to Stakeholders</td>
<td>5</td>
<td></td>
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<tr>
<td>6. Questionnaire Administered to Telecom Service Providers</td>
<td>3</td>
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<tr>
<td>7. Observation (To Supplement Primary Data)</td>
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<td></td>
</tr>
<tr>
<td><strong>Total Primary Respondents</strong></td>
<td></td>
<td><strong>439</strong></td>
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<tr>
<td>Secondary Data</td>
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<td></td>
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<tr>
<td>1. Annual Reports of TRAI;</td>
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<td>2. Consultation Papers;</td>
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<td>3. Press Releases of TRAI;</td>
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<td>4. Recommendations by TRAI;</td>
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<td>5. Regulations;</td>
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<td>6. Directions of TRAI;</td>
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<td>7. Study Papers of TRAI;</td>
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<td>8. Survey of Standards of Quality of Services;</td>
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<td>10. TRAI Act (1997 and Amendment in 2000);</td>
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<td>11. Annual Reports of Department of Telecommunications;</td>
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<td>12. Journals;</td>
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<td>13. Books;</td>
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<tr>
<td>14. Newspapers;</td>
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<tr>
<td>15. Internet (Websites of Telecommunication Players, Stakeholders and Information Portals).</td>
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</table>
The data processing involved editing, coding, classification and tabulation. The data analysis has used simple statistical techniques like percentages and averages along with the graphical depiction through bar diagrams and pie-charts to examine the impact of different regulation policies and initiatives of the Telecom Regulatory Authority of India on the issues mentioned above.

1.14 ORGANIZATION OF THE CHAPTERS

The chapters of the research study have been organized as under:

1. Introduction.


3. De-regulation of Telecom Services in India.

4. Organization and Working of Telecom Regulatory Authority of India.

5. Features of the Sample Population.


7. Summary and Recommendations.