

Technological Convergence: A Study Based on Policy Challenges in Indian Communication Industry

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Abstract : The aim of the present paper is to analyze the technological convergence of digital media as a part of industrial restructuring and thereby, to get the insight of related challenges as far as policy formulation is concerned. The paper aims to look at the evolution of communication technologies in the history of India and ongoing convergence due to digital platforms; the study attempts to analyze the role of regulatory bodies in the regulation of the ongoing scenario and thus, will look at the need for integrated approach required to regulate ICT and Broadcasting in India. The study aims to understand the convergence in Indian context and the policy challenges related to the convergence of technology. It will attempt to suggest the appropriate regulatory choices in Indian context.

IndexTerms - Convergence, Regulation, Co- Regulation, Self – Regulation.

I. INTRODUCTION

India had entered into the age of electronic media during the British Raj with terrestrial radio broadcasting in 1920s but after independence, the AIR network had only six stations: Delhi, Bombay, Calcutta, Madras, Lucknow, and Tiruchi; the total number of radio sets at that time were about 275,000. Television broadcasting began in Delhi in 1959 as part of AIR, but was separated from radio as Doordarshan on April 1, 1976. During that period India took up the experiment called Satellite Instructional Television Experiment (SITE) for one year, i.e. from August, 1975 - 1976 in collaboration with United States to meet various technical and development objectives. This was the first time when India broadcasted through the Satellite using United States ATS – 6 spacecraft and later moved to have its own broadcasting satellite INSAT, commissioned in 1983. It was a joint venture of Doordarshan, All India Radio, India Meteorological Department, Department of Space and Department of Telecommunication. So, the need for the regulation of industrial convergence (across various sectors) can very well be traced back in 1980s.

The early decade of 1980s saw remarkable development in Television broadcasting. National telecasts were introduced first time in 1982 and the same year colour TV was introduced in the Indian market with the live telecast of the Independence Day speech by the then prime minister Indira Gandhi on 15 August 1982, followed by the 1982 Asian Games which were held in Delhi. On the other hand, Indian Telecommunication services, which began in 1965, were going through various changes with the establishment of Mahanagar Telecom Nigam Limited (MTNL) in 1986. Since then, regulation of services has become a matter of consideration among the public and private stakeholders, which will be discussed in the later sections of this paper. Moreover, in order to discuss the existing policies and the policy measures for future, it is important to understand the regulatory aspects of past.

II. REVIEW OF LITERATURE

The term convergence has become a buzzword to indicate the developments that are taking place globally, combining the various aspects which were once separate. Mark Hukill (2000) puts forward that since 1980s, the ubiquity of computer technology and the advancement of digital technology have accelerated the convergence of the sectors which were previously separating the communication industry. Moreover, organizational orientations have begun to converge not only cooperatively but through new alliances and mergers, and as well as competitively through the intrusion into each other's market. Hukill (2000) has seen the convergence at three levels, a) at the level of technological developments, b) industrial restructuring and c) convergence in the regulatory measures. He has given a broad and inclusive definition of convergence from the technological perspective as 'the overlapping and ubiquitous use of computer systems, network infrastructure and other electronic communication systems and devices for the production, organization, storage, retrieval, interlinking and dissemination of digitally encoded information (text, audio and visual) in all communication industry domains including, but not limited to broadcasting, and cable media, print media as well as telecommunications and information technology' (p.15).

Michael Latzer (2009) has also pointed out that convergence can take place at various levels and the leading role is played by the technological convergence, which he defines as 'a universal digital code, for common (IP) protocols, which are used for different technological (hybrid) platforms (fixed-wire and mobile communication, WLAN, broadcasting, wi-max and so on). Convergence creates a 'digital modular construction system', which offers great flexibility for innovatively assembled services. This can lead to service-integrating devices, such as TV-capable mobile phones. Convergence has also resulted into increased flexibility on the supply side, and to increased product variety since the previously rigid combination of technology and content (services) has been dissolved (p.414). It would be inappropriate and misleading to reduce convergence to technological level alone, rather technological convergence is leading to the integration of services as well. This type of convergence will be the focus of discussion in this paper. Further, Latzer has talked about corporate convergence, that is, the same companies are now active in both sectors and in the third sector, the internet – keyword triple play and he gives the example of the newly emerging enterprises as Google, ebay.¹ Latzer has talked about social-functional convergence, wherein, telecommunication is now increasingly being used in the private-entertainment sector and broadcasting is increasingly used for business communication (e.g. Internal corporate business TV). At

¹ These enterprises have emerged as consequence of convergence and Latzer has called them as convergence enterprises.

the same time, shifts, substitutions and combinations in the application of services are taking place. This is also called receptive convergence, since it is about the change in reception patterns, a convergence of usage patterns (Latzer 2009, pp. 14 – 15).²

Lastly, Spatial Convergence can be defined as the globalizing effect of ever-increasing cross-border services and uniform technology – as well as a regulatory convergence, affecting the coordination and integration of regulatory systems for media and telecommunications. Considering all these aspects of convergence, Latzer has coined a term, “mediamatics” by which he means ‘the computer sector serves as connector between the formerly separate sub-sectors of telecommunications and the mass media. Seen chronologically, convergence has taken place in two steps - data communication and the digitalization of telephony, which marked the arrival of computer technology (informatics) into telecommunications (= telematics). This pattern has been followed till the end of the 20th century by convergence of mass media with telematics (=mediamatics)’ (Latzer, 2009, p.415).

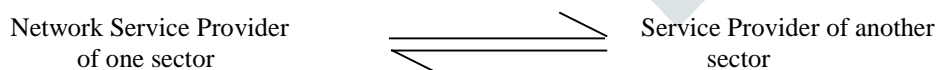
Mosco and Mckercher (2006), locating the term convergence as integration of technologies, arenas and institutions, has defined the technological convergence as ‘ the integration of devices that the industries use as well as information they process, distribute and exchange over and through these devices’ (p.734). According to them, by integrating computer and telecommunication, internet has become an iconic example of technological convergence and is also responsible for the convergence of once separated industries into common arena providing electronic information and communication services.

Therefore, while defining various types of convergence, the study is limiting the discussion by broadly classifying the convergence into two categories - a) Convergence due to the technological developments and b) Vertical and Horizontal convergence of the services which is taking place due to convergence of technological developments. This study is not only limited to see the internet as convergence between the telecommunication and computer, but has rather gone far beyond that to illustrate the implications of the more recent examples in Indian context. As far as convergence of technology is concerned, the best example to illustrate would be a mobile handset which is having features of camera, radio, and mp3 player. Thus, the convergence of technology has made devices more compact and advantageous.

Due to the technological developments, the convergence is taking place in terms of services which requires an in-depth analysis in order to come to any conclusion regarding the regulatory choices to have optimum policy outcomes. But prior to dealing with possible regulatory measures, it is important to understand the horizontal and vertical convergence in Indian context. Vertical Convergence can be understood as the convergence taking place within a sector, for instance; convergence of services in telecom sector, broadcasting of television including cable and satellite television and Conditional Access System (CAS), which is, digital mode of transmitting TV.

Hereby, the paper will be discussing the vertical convergence of services in telecom sector. As mentioned above, the history of telecommunication in India can be traced well back to the establishment of Indian telecommunication services in 1965 and the establishment of MTNL in 1986 was proved to be a watershed. In 1991, liberalization of Indian economy led to the privatization of the erstwhile governments owned sectors. Subsequently, the National Telecom Policy of India was introduced in 1994 to regulate the telecom sector. The policy was aimed at ‘improving India's competitiveness in the global market and rapid growth of exports. Another element of this policy was to attract foreign direct investment and stimulate domestic investment’ (TRAI, NTP 1994. The corollary of the policy was the entry of foreign private players in Indian market to provide services (Airtel) and to set up manufacturing units (Nokia, Alacatel). This period was marked with rapid growth in the development of technology and the services. The examples to illustrate the vertical convergence in telecom sectors are Short Message Services (SMS), Multimedia Message Services (MMS), call transfer and roaming facility. The other example is mobile number portability, wherein, the user without changing the number can switch to another network. The important aspect which is to be discussed in later sections is the regulation of the sector wherein multiple players are involved and are sharing services or infrastructure (for e.g. signal towers) to provide the services to consumers.

The other parameter to be discussed here is horizontal convergence, means that the convergence of technology and services is taking place across sectors. This can be illustrated through various examples, like on one hand there is integration of camera with mobile and on the other hand, the files or photographs and videos can be seen at Television or Computer by attaching the mobile with it. This is one aspect of technological convergence across sectors, but the other aspect is important from this paper's point of view; which is that today we can avail the broadcasting services on our mobile network. This type of convergence involves a trade – off between the mobile network service provider and the television service providers (individual channels).³



TRAI has defined convergence as ‘convergence of mediums or technologies facilitating provision of all services by using a given facility or network and vice versa. It also means convergence of services at the provider's end as well as the consumer's end implying that a service provider should be able to provide a whole range of technologically feasible services and a consumer should be able to receive all services through a given terminal at any time and place of his choice’ (TRAI Draft Bill, 2000; p.73).

III. OBSERVATIONS

As discussed above, Indian media industry has gone through various facets in terms of regulatory measures. But as far as convergence is concerned, it is seen as the fastest growing industry. This became evident after liberalization of Indian economy when private players entered into the Indian market both in telecommunication as well as in broadcasting sector. Eventually, a trend can be seen over decade where both the sectors have converged to provide the new technological services.

² Latzer has quoted Höflich, 1999; Hasebrink, 2003; Wagner et al., 2004 to define receptive convergence.

³ 3G JADOO of MTNL used to providing services to watch Television channels on Mobile by paying either individually for a single channel on per day basis, or by paying a monthly amount. There are only 12 channels in the list that user can watch, so a trade – off between MTNL and the satellite channel is quite evident. Similarly, JIO, Airtel and all other private service providers have been converging to provide satellite services in the digitized form.

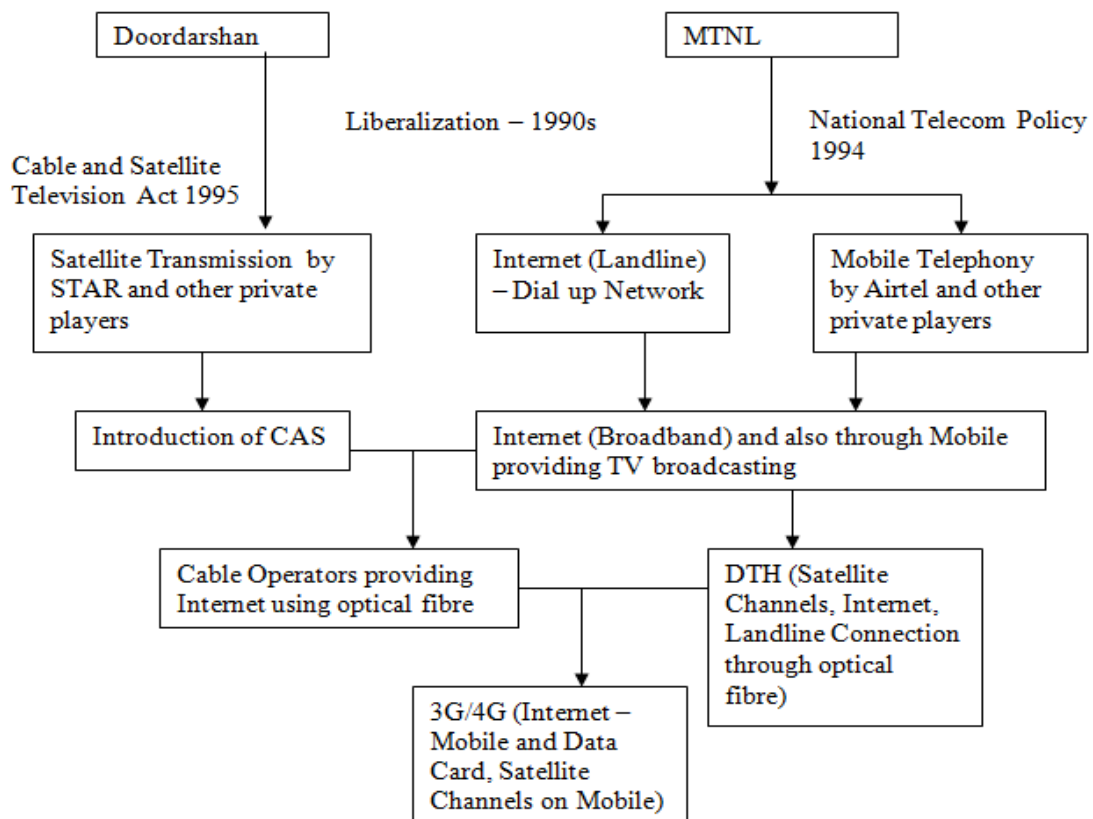


Figure 1: Trajectory of Telecommunication and Broadcasting Sector in India

(Source: Self Compiled)

The linkages between two sectors show the trade – off between these sectors and the convergence between the two. This convergence is not only limited to the above given example, but rather can be seen even in Radio broadcasting. So, under such circumstance, there are questions like who will regulate, what will be regulated, how will be regulated? These questions are still required to be answered. This study is an attempt that can help us in understanding the situation more clearly, also might help us in choosing a viable regulatory option.

3.1 Regulatory Measures

Before looking at the regulatory measures, we should first understand the term regulation and its need in the converging scenario. The term regulation and intervention is most of the time used interchangeably and is misconceived as an instrument in government's hand to control the economy and society. But the need of time, considering the convergence of technology, we require a viable mechanism to regulate the industry and society in an efficient manner. Thus, the converging technologies require new meanings of the term regulation. Jordana and Levi-Faur has used the Baldwin et al.'s view to define regulation as the following:

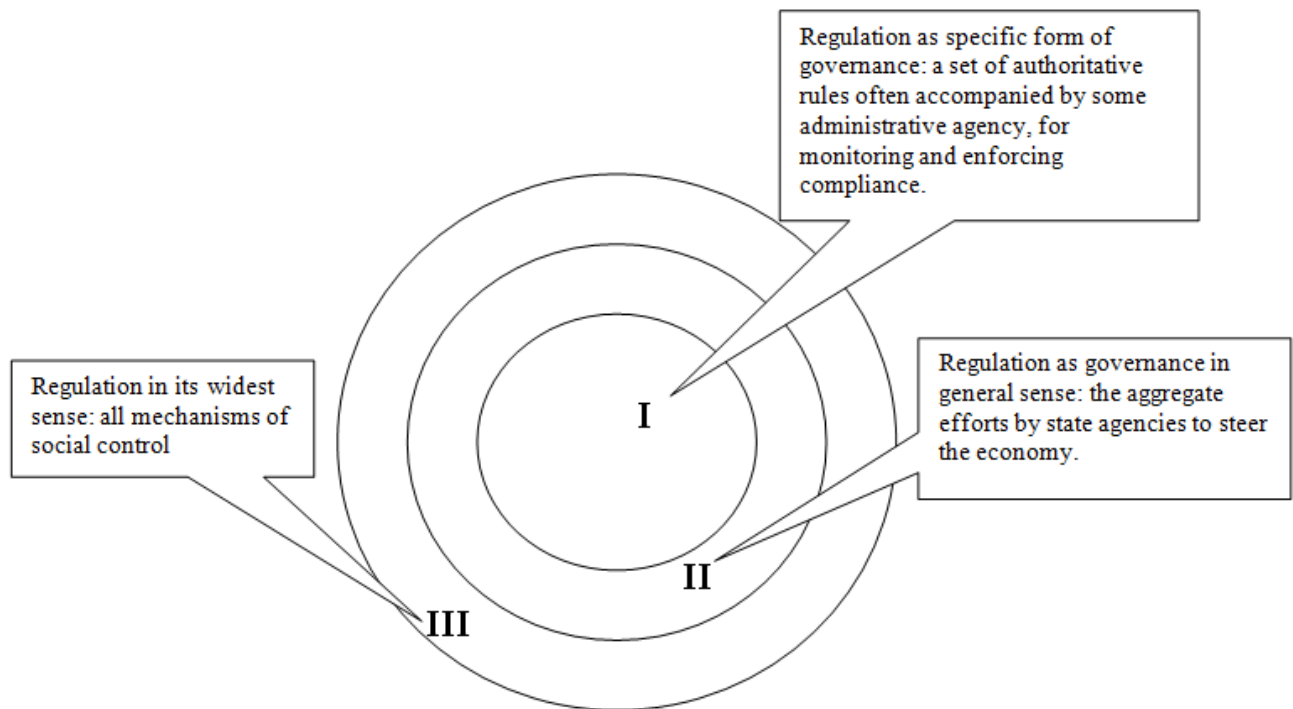


Figure 2: Definitions of Regulation

(Source: Baldwin et al. In Jordana and Levi-Faur, 2004)

Regulation has been defined with the help of three concentric circles; the first circle can be defined as a promulgation of an authoritative set of rule, accompanied by some mechanism, typically a public agency for monitoring and compliance with these rules. The second circle refers to all efforts of the state agencies to steer economy and the third circle encompasses all mechanism of social control, including unintentional and non – state processes.

According to Jordana and Levi-Faur (2004), until the end of the 1980s, scholars outside the United States tended to employ the word ‘regulation’ to denote the general instruments of government for the control of the economy and society (meaning II). But in United States the meaning of regulation was different, from broadest to narrowest due to the large number of independent regulatory agencies and the consequent crystallization of regulatory practices into theory of governance (meaning I); it has been proclaimed that after 1990s, there is a global spread of the wave of regulatory reforms, and especially the establishment of independent regulatory institutions, in various sectors has led to the convergence in the meaning of regulation from broader which is more general to the narrow one. This movement was strengthened by a shift in the way some economists used the notion of regulation. Therefore, each type of definition suited to people from different discipline. And so, it is important to understand the need of the particular situation in which it can be regulated as there are exhaustive and consensual definitions of regulation across different disciplines and research agendas, but we should focus for a specific context and goal that shape the particular meaning of the notion of regulation.

3.2 Role of TRAI

The Telecom Regulatory Authority of India (TRAI) is the apex regulatory body in India formed to meet the objectives of New Telecom Policy, 1999 and is aimed to encourage the competition in telecom sector together with better quality and affordable prices. Broadcasting and Cable Services were also brought within the definition of ‘telecommunication sector’ in terms of section 2(k) of Telecom Regulatory Authority of India Act, 1997 as amended by TRAI (Amendment) Act, 2000.

The aims and objectives of TRAI include increasing tele-density, making services of best quality available at affordable prices, social equity that includes Universal Service Obligation fund (USO) under which both the public and private companies are required to give 5% of their revenue as Access Deficit Charge (ADC), preparing grounds for smooth transition to an era of convergence of services and technologies, protecting interest of consumers, promoting the growth of coverage of broadcasting, increasing consumer choice in reception of TV channels and choosing the operator who would provide television and other related services.

So, depending upon the needs of new emerging technologies and to have more viable regulatory mode, we have been analyzing the trends of convergence in regulation as well. But the difficulties are evident for TRAI, there is need for integrated approach to regulate ICT and Broadcasting in India, but, this move has been opposed by broadcasters in India so far. And, in recommendations of National Telecommunication Policy (2018), TRAI states that that there should be an integrated regulation of ICT and broadcasting sector and that TRAI itself should be restructured as a converged regulator for both.

3.3 Need for Convergence Act in India

TRAI drafted a Convergence bill in 2000 and the bill says that convergence is a means or the provision of different kinds of services over the existing infrastructure and the enhancement of existing technologies so as to provide a wide variety of services which is resulting into the blurring of borders between telecommunications, computing and media.

The continuous development of new technologies results in an inability to predict the future evolution of convergence viz. the development of new services like web-casting, Internet Telephony etc. Resulting in the need for regulations which does not aim to

predict the future, but aspires to be flexible enough to accommodate and propagate any permutation and combination of technologies and services.

It predicts regulation of convergence as an effort to facilitate the convergence. It says that its aim is to provide for a regulatory mechanism, which facilitates convergence and therefore, remains valid over a period of time and says that in order to regulate the convergence, there are four categories of licenses. These are as follow:⁴

- (a) Network infrastructure facilities;
- (b) Network services;
- (c) Application services; and
- (d) Content application services.

The licensing structure has hence been broken into its different elements which lead to a four layered hierarchical structure where each layer is dependent on one or more of the earlier layers for the provision of services. The structure results in four different service providers namely;

- a) **Network infrastructure facility provider**; where network infrastructure facilities refer to the provision of physical infrastructure which would be utilised by other licenses for providing various services.
- b) **Network service provider**; who will utilise the infrastructure set up by one or more network facility providers to carry various kinds of services.
- c) **Application service provider (ASP)** is the one who provide services to the end consumer using the services of one or more network service providers.
- d) **Content ASPs** are the ones that provide content to the end users using the services of one or more network service providers.

3.4 Regulatory Choices

The Indian media industry has already experienced the statutory regulation, under which all the sectors were completely controlled by government, and in fact, the broadcasting of television and radio became the instruments in the hands of government to the extent that they were being misused during the period of emergency to formulate the public opinion. The misuse of television or radio has been evident since its use by Indira Gandhi, the Prime Minister of India during the period emergency in 1987. The radio was misused to such an extent that people started calling All India Radio as 'All Indira Radio'.

Therefore, various committees for formed in order to have optimum policy outcomes, the committees actively involved were Chanda Committee, Verghese Committee, a committee headed by P.C. Joshi. Almost, all of these committees mentioned in their report that Indian media required decentralization and autonomy. And so, many attempts have been made in this direction but the political parties always subjugated the matter and at last the bill which came in 1997, the Prasar Bharti Act, it had all the clauses different and modified from the ones which these committees asked for. So, it may be said that there were so many developments going on in terms of technology or convergence, but media did not have the autonomy till that period. Therefore, there is need of shifting from vertical to horizontal regulation, i.e. sector specific to integrated media market which involves institutional change of existing separate regulatory structures for telecommunication and media, the integration of political responsibilities at the ministerial and parliamentary level, as well as the harmonization of respective laws and regulation for telecommunications and media (Just and Latzer, 2004).

The change in technology definitely require a viable mode of regulation as statutory regulation was failed to fulfill the requirements, in such a situation there is need to rethink upon the valid regulatory options or if there is possibility of having universally applicable regulation rather that the sector-specific; as from economics point of view there is 'normalization' of sectors taking place, i.e. an adaptation to other sectors, is taking place with the liberalization of telecommunication and broadcasting markets and the 'economization' of media markets.

Hence, due to globalization and rapid technological change there is need for a shift from statutory regulation to co – regulation or self regulation, the distinction between the two forms of regulation refers to the varied intensity of intervention by the state government.

3.4.1 Co - Regulation

Just and Latzer (2004), Palzer and Scheuer (2003) argue that regulation takes place on a continuum between the pure state regulation at one end and pure self regulation at the other end. The co-operative arrangement of private and public is often conceived as co – regulation. Prefix "Co-" refers to the degree of state involvement in the regulatory process, Just and Latzer (2004) calls co-regulation as self-regulation with public oversight or ratified by the state, it is self-regulation with a legal basis. Palzer and Scheuer (2003) puts forward that the term co-regulation denotes co-operative forms of regulation that are designed to achieve public authority objectives – the co-operation being performed by public authority and civil society. This scheme combines elements of self-regulation (and self-monitoring) as well as of traditional public authority regulation to form a new and self-contained regulatory system.

Palzer and Scheuer (2003) say that there can be different models of co-regulation, they have talked about the two models that broadly covers many other forms of regulatory models, one, is the possibility that state would integrate an extant self regulatory system into a public authority framework. And another possibility would be initiation of a co-regulatory system by the state. In this

⁴ The classification is technology-neutral and service sector neutral. Setting up an infrastructural facility and its use is not linked to the provision of a particular service by using a particular technology. Similarly, services can be provided by using any facility and any technology.

case, the public authority would lay down a legal basis for the co-regulation system, so that it could begin to function. The choice of deciding the elements as the foundations of a co-regulation framework depend in particular on the task to be performed. One common feature will exist in each case: the pursued aim will be a public one.

A key element of a co-regulatory regime is the self-contained development of binding rules by the co-regulatory organization and its liability for these rules, the latter being one of the main differences between co-regulatory systems and self-monitoring systems (Ibid.). In respect of the distinction between self- and co-regulatory schemes, an important criterion is the voluntariness of participation. In a co-regulatory-system, non-compliance with the given rules is directly or at least indirectly (e.g., in the form of possible revocation of a license) sanctioned by the state (public authority). Thus, the market players concerned are not actually free in their decision to participate in the system. In fact, in a functioning self-regulatory system, there is also some pressure to participate; although this pressure is not exercised by the state but by the public, the customer – in short, by societal institutions.

The greater the public authority's involvement in a co-regulatory model, the less participation in the inclusive co-regulatory organization can be considered to be voluntary. This leads to the distinction between co-regulation and state regulation: in this context, the main criteria can be seen in the degree of autonomy of the co-regulatory organization from state influence, e.g., the extent to which it can make its own decisions, or whether representatives of the public authority can exert influence over the rule- or the decision-making of the co-regulatory body.

3.4.1.1 Advantages and disadvantages of co-regulation⁵

Due to new technological developments, especially their speed and the growing Convergence, public regulation or the statutory regulation is deemed to be no longer able to solve some of the problems. At present, the manner of bringing an audiovisual product to the consumer is decisive for implementation of standards for the protection of minors. This "artificial" distinction already causes some problems. If convergence becomes reality in the mid-term perspective, providing for different regulatory regimes according to merely technical considerations (what represents the status quo) will become increasingly difficult – if not deficient and therefore unacceptable.

Against this background, the prospects and advantages of co-regulation become visible. The more stakeholders take the initiative for responsible handling of relevant concerns, such as the protection of minors, the more efficient and prompt the regulatory framework can react to new technologies. On the other hand, in the context of co-regulation, the state or competent authority will play a significant role, setting the legal framework and monitoring the functioning of the system by assuming responsibility for initially checking self-regulatory bodies, having a say on the monitoring of results and, if necessary, requesting that adaptations be implemented. Thus, the achievement of public policy goals is not relinquished to societal control entirely; the responsibility remains with the state, which is often even under an obligation to guarantee this achievement. With regard to youth protection in the media, where such fundamental public goods are at stake, the state cannot exercise complete restraint in view of its responsibility for safeguarding the public interests involved. Furthermore, democratically-founded legislation will have to establish, in most cases, criteria according to which co-regulatory systems should work, addressing such issues as complaint procedures, sanctioning powers in view of members, organization and representativeness, conditions for accreditation, etc.

Bearing in mind that state authorities may intervene in the case of an alleged malfunctioning of a co-regulatory institution, this will necessitate, at least to some extent, the doubling of institutional structures, on the side of the organization in charge and, in addition, on behalf of a competent state authority. Therefore, one may doubt that in the short-term co-regulation will also show prospects for more efficiency, in particular in terms of costs.

3.4.2 Self Regulation

The prefix 'self' can be categorized into two — in an individual sense and in collective sense, by individual sense it means that one company sets its own rules and by collective sense it means that an industry groups regulates the conduct of its members (Just and Latzer, 2004). Self regulation can be defined as the system which is situated at the other end of the "regulatory scale". Under this system, social groups (producers, providers, etc.) draw up their own regulations in order to achieve their objectives and take full responsibility for monitoring compliance with them (Palzer and Scheuer, 2003). Ang and Pramanik (2008) articulate that the term "self-regulation" is often juxtaposed against government regulation so that where is there self-regulation; there is no need for government regulation. Traditionally, it has been taken as industry regulating industry, where government delegated most of its regulatory powers to industry, typically an industry association, while reserving powers of the ultimate, i.e. the strongest, sanctions. Self-regulation is therefore a form of regulation, a delegated regulation at that.

This form of regulation may take the form of technical or qualitative standards, potentially combined with codes of conduct defining good and bad practice. Codes of conduct may also contain rules on out-of-court mediation and on the structures of the relevant complaints bodies. These rules may be laid down by a self-regulatory organization created by the parties concerned (ideally involving other interested parties, such as consumers). This body may also monitor compliance with the rules and impose any sanctions, if provided. Such a model might even be considered the preferable one, because the rule-making – "legislative" – power is separated from the rule-applying – "executive" – power (Palzer and Scheuer, 2003).

3.4.2.1 Advantages and disadvantages of self-regulation

Ang and Pramanik (2008) have said that the success of self regulation can be determined by certain conditions; the success is seen in the following cases:

- a) **Motivated industry**, i.e. 'industry is not dragging its feet and feeling compelled to have to self-regulated' so, there should be incentives that might motivate people to participate. So, on the one hand this voluntariness can be seen as a positive point whereas on the other hand it might be seen as a negative point (Palzer and Scheuer, 2003). Positive aspect can looked

⁵ Just and Latzer (2004) have talked about the potential incentives, risks, and success factors of self and co – regulation in a generalized form without making any distinction between the pros and cons of both the regulatory models separately. The mentioned description is based upon Palzer and Scheuer (2003).

as that the members, voluntarily submitting to the system, are willing to comply with the rules. Normally (when the system is running well) they obey without coercion; they are convinced that conformity of their behaviour with these rules is the best way to solve the given problems. This attribute can work well as in the case of internet where voluntary self-regulation, implemented ideally by all, if not by most of the stakeholders, may provide for a solution. On the other hand, it might become a weak point, i.e. stakeholders cannot really be forced to comply with the rules. If, for example, the management of an undertaking changes and the new leaders do not subscribe to the idea of self-regulation, the heaviest sanction that can be imposed is exclusion from the system – the effect being that the failing undertaking is no longer subject to the rules.

- b) **A small number of large players** — this attribute definitely helps in increasing competition and thus making the services at affordable rates available to all consumers.
- c) **A government regulatory backstop**, i.e. government must be willing and able to put in place a regulatory mechanism to address the recalcitrant offender.
- d) **Maturity in market** — the rules for market behaviour have yet to stabilize. A matured market will therefore make it easier to self-regulate.

The above mentioned conditions determine the success rate of this regulatory model. Apart from that another positive aspect is that self-regulation as a self-contained regulatory system often receives support. This is due to the fact that the industry is perceived as most experienced and best placed to evaluate the risks of their products and services. Professionals may react to new challenges in an easier and faster manner than do the makers of public regulation (Palzer and Scheuer, 2003).

The disadvantage of self-regulation is that it suffers from a lack of democratic legitimation. It originates from economic players or groups with their own specific interests – interests that may contribute to or even is partly congruent with the general interest; nevertheless these special interests do not necessarily coincide totally with the general interest. Thus, there will always be a tendency to allege that self-regulatory organizations pursue their own policies rather than general policy goals.

Since the state is not involved in this form of regulation, public authority sanctions cannot be imposed, but only those provided by civil law, particularly the articles of association(s). According to this, the most severe sanctions are financial penalties or exclusion from the relevant association that has adopted the self-regulatory system. Thus, the self-regulatory approach is not primarily based on enforcement by punitive or exemplary sanctions. Based on agreement, the conviction that the parties concerned have common objectives should ensure the effectiveness of this system. The key element of the above-defined self-regulatory system is the voluntary nature of the participation of those who are subject to regulation.

IV. CONCLUSION

It may be concluded that regulatory approaches and instruments change with the subject of regulation, in our case with the communications industry and the societal communications system respectively. As argued above, the convergence of telecommunications and mass media at the corporate level--which challenges the regulatory telecommunications-(mass) media-dichotomy plus the liberalization and growing globalization of mediamatics markets--which challenge the former dominance of national regulations--are causing a political control crisis and pose new challenges to the regulatory system. Self-and co-regulation are considered as tools of great promise in this situation, especially by the industry.

Therefore, a lot of engagement is required to understand which definition of regulation follows in India Context and which regulatory mechanism will be appropriate for India. But the policy challenge for the regulatory bodies is to consider the socio – economic framework as well for optimum policy outcomes; they should keep in mind that their objective is to facilitate the convergence in such a manner so that policy should attend the vast majority of poor and uneducated people of the county.

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