

Convergence in Telecommunication Law in Bangladesh: The Necessity of Harmonisation of Regulations of Internet, Broadcasting and Telecommunications Services

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Abstract

This Article aptly discusses the trend toward convergence of different technologies and services offered by telecommunications, media and information services sectors. However, it is debatable, whether it is effective or even appropriate to simply apply the prevailing laws and regulations governing the traditional media and broadcasting sectors to the vast array of new convergent media services that are offered over telecommunications infrastructures, including the Internet. The purpose of this paper is to study the impact of convergence on the respective telecommunications, broadcasting and ICT laws and policies in Bangladesh and propose regulatory reforms. It is recommended that Bangladesh should consider establishing a convergent, independent regulator as the central authority governing the converging telecom, Internet media, and broadcast industries.

Prologue

In our time convergence has become a topical phenomenon in the realm of information technology law as the issues of different telecom, media broadcasting, internet, etc. services and technology are fused together for the benefit of the users of various modern apparatus. The notion of convergence is the result of practical requirements and environmental changes in telecommunications, broadcasting and other technological spheres.ⁱThe term “convergence” is commonly used to describe the development of technologies, drawing on a combination of research findings from different disciplines; a trend that could even lead to new disciplines or sub-disciplines.ⁱⁱIt is pertinent to note that the emergence of TVs, PCs, internet and mobile phones can be seen as key milestones of the digital revolution, which later on gave birth to the concept of convergence. TV was invented as a broadcast medium in the 20th century. The device combined voice capabilities of radio and video capabilities of cinema. A few years down the line PCs combined data, voice and computing. Over the next few years, internet empowered PCs with communication. Mobiles developed as an easy-to-carry communication devices that combined telephony, computing, internet and live TV. The trend is indicative of consumer behaviour that is demanding a single device with multiple functionalities. There is a growing demand for personalized devices and services that combine voice, video and data to any device, at any time. Enterprises are investing huge amounts of money for the development of such personalized and interactive applications and devices. This demand in turn is triggering industry, network, and service and device convergence. The key result of this convergence is the merger of telecommunications and media/entertainment industries. As a result of convergence, telecom companies are gearing up to provide broadcasting and data services and media/broadcasting

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providers are looking for alternate distribution channels, bypassing traditional players. In the late nineties, large manufacturers made significant investments in building mobile applications and apparatus based on the concept of convergence. As a result, cutting edge mobile devices like smart phones, Android phones, and window based phones and tablet or other devices have powerful processors, innovative user interfaces, large storage capacity and a means to access pervasive internet. These mobile devices have the ability to run rich native as well as browser-based applications. These advanced features have significantly reduced the gap between a mobile device and a personal computer and thus have opened up a great new platform for building consumer and business applications. Adoption of these smart devices has been very rapid across the world and is bringing about massive changes in the way of human lives, offering a plethora of benefits and opportunities to the consumers and service providers. Further, this has changed in the way of human lives, to some extent demands for upgrading the current regulatory regime which is not equipped to handle convergence dilemma.

Convergence within Legal Regime

In discussing convergence in the context of information and communication technologies (ICT) and Telecommunication Technologies (IT), it is vital to realise that convergence is happening in several areas as technology has a tendency to develop much faster than in the law, and in ways which often break legal paradigms. Thus convergence of IT, ICT, computers, and the media have given rise to regulatory challenges as the existing regulations to some extent become archaic in dealing converging issues. Telecommunications regulators worked previously alongside a number of other regulatory agencies. These have included competition law authorities, responsible for regulating the economics and ownership of other media markets; regulatory agencies covering the content of advertising and print media; regulators of broadcasting content; and the regulators of other infrastructure networks. Nowadays, broadcasting, telecommunications and other communications sectors apply the same basic digital technology to transmit data in the form of bits, which makes technologies convergence-prone and enables any customer to access any content through any one of a number of different terminal devices. This process demands integration of telecommunication, ICT and broadcasting laws as applying laws and regulations from multiple regulatory authorities could lead to overlapping and sometimes contradicting regulation over the same service, potentially creating market uncertainty and confusion that deter investment and market development hindering the interest of investors and consumers.

But what is Convergence?

In order to adequately examine the phenomenon of convergence and its additional impact upon regulatory regime, it is essential to aptly analyse the concept of convergence. In telecommunication sector, convergence means “a combination of many telecom technology and services in order to minimise market and industry barriers.”ⁱⁱⁱ Convergence is frequently and prevalently described as the blurring of the boundaries between the telecommunications, media, and information technology sectors. It is the term coined to express the erosion of the distinctions between televisions, computers and telephony as each increasingly begins to share the same

technology based on digital transmission, which allows similar services to be provided over different platforms-broadcasting over computer networks, Internet telephony, Internet services on television and e-mail on mobile phones.^{iv}

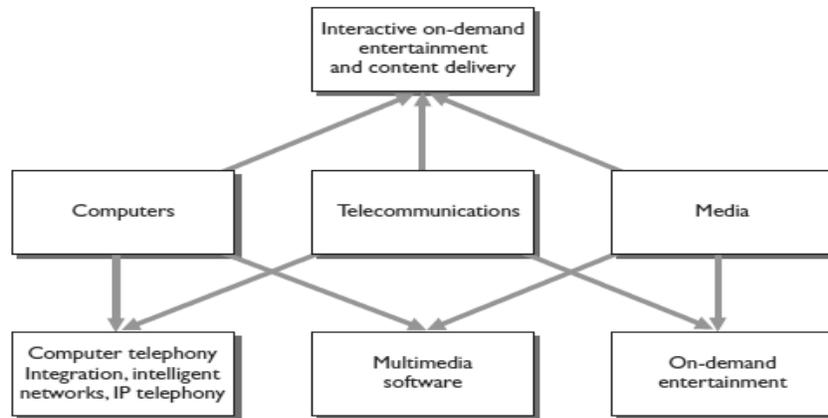


Diagram 01: Examples of Convergence

Source: IDELS

In the European Commission Green Paper^v, convergence is referred to as “[t]he ability of different network platforms to carry essentially similar kinds of services and the consequent coming together of consumer devices such as the telephone, television and personal computer.” In simple word, convergence is the coming together of two or more different entities, and in the contexts of computing and technology, is the integration of two or more different technologies in a single device or system. The root of convergence lies in the fact that broadcasting, telecommunications and other communications sectors now use the same underlying digital technology, which transmits data in the form of bits (the digits 0 and 1). As a result of this, the relationships between different communications markets have changed.^{vi} A good example is the convergence of communication and imaging technologies on a mobile device designed to make calls and take pictures. Here two unrelated technologies are converged on a single device.^{vii} Currently mobile phones increasingly incorporate digital cameras, mp3 players, camcorders, voice recorders and other devices. Another example is the PlayStation2. The PlayStation2 is not only a game console but also works as a CD player, a DVD player and provides a connection to the internet. Other most highlighted examples of the convergence of communication and imaging technologies are the personal video recorder (PVR) or digital personal video recorder (DVR) is a consumer electronics device that records television shows to digital storage. This makes the “time-shifting” feature (traditionally done by a VCR) much more convenient. Currently, many satellite and cable companies are incorporating DVR functions into their set top boxes, such as Sky+. The satellite signal is already a digitally encoded stream which is provided to subscribers. The DVR simply stores the digital stream directly to disk.

As discussed in the foregoing, convergence can refer to any kind of overlap, combination, or merger. But in connection with digital technology, especially in Telecommunication and ICT, its meaning is more specific. Jon Bing usefully breaks the phenomenon down into four major components: (1) network convergence; (2) service convergence; (3) apparatus convergence; and (4) market convergence.^{ix} Network convergence refers to the provision of telephone, video and data communication services within a single network. In other words, one pipe is used to deliver all forms of communication services. The process of Network Convergence is primarily driven by the development of technology and demand. One main goal of such integration is to deliver better services and lower prices to consumers so that users are able to access a wider range of services, choose among more service providers.^x Network Convergence allows service providers to adopt new business models, offer innovative services, and enter new markets.^{xi} The second form is service convergence, which allows an establishment to use a single network to provide several communication services that traditionally required separate networks. The third form is Apparatus Convergence. Mobile is an excellent example of Apparatus Convergence. Mobile devices have been rapidly adopted over the last decade. Today a modern mobile phone allows humans, to talk



to others, listen to stored music and radio, take photographs, browse the internet, etc. This phenomenon of multiple functions provided by a single device today - a feat which hitherto was provided by different independent devices is termed as apparatus convergence.^{xii} While these three forms of convergence are technological, the fourth form is Corporate Convergence, which results from mergers, acquisitions, or collaborations among establishments. Under the fourth form, newly organized business entities offer multiple services and address different markets.^{xiii}

Convergence and Current Legislative Regime in Bangladesh

More than a few regulatory changes are required against the prevailing provision of convergence in Bangladesh. Like most developing countries, separate licenses are required in Bangladesh for basic, cellular, ISP, and satellite and cable TV operators, each with individual industry formation. The terms of entry differ in various fields and varying requirements necessities in creating infrastructures. These laws are basically sector specific regulations^{xiv} designed to regulate one specific area. However, the fact that convergence now allows operators to use their facilities to deliver some services reserved for other operators necessitated a re-look into the existing policy framework.

In Bangladesh, at present, different organs of the Government regulate the Telecom, Broadcasting and IT industries differently. Telecom services are regulated by the BTRC (Bangladesh

Telecommunication Regulatory Commission) through the Ministry of Information, separate and distinct licenses are required for Internet access services, basic telephony and cellular telephony under the Bangladesh Telecommunication Act 2001. On the other hand, radio and television broadcasting services are regulated by the Ministry of Information (MoI). The license of satellite television broadcasting is also given from the Ministry of Information to broadcast news and to make and export the video program/film. The license of FM radio/Community radio broadcasting is given from the Ministry of Information to establish and operate radio station under the private ownership. After awarding license from MoI, a licensee has to apply for assigning frequency and to import Earth Station and SNG/DSNG equipment to BTRC. After getting the application with the proper documents, the Commission places the application to the Spectrum Management Committee (SMC) for their opinion. The SMC recommends the proposal to the Commission. It is worth mentioning that the sole responsibility of assigning spectrum belongs to the commission. After assigning frequency to the licensee, the licensee will be eligible to import radio equipments by getting prior permission from BTRC.^{xv}

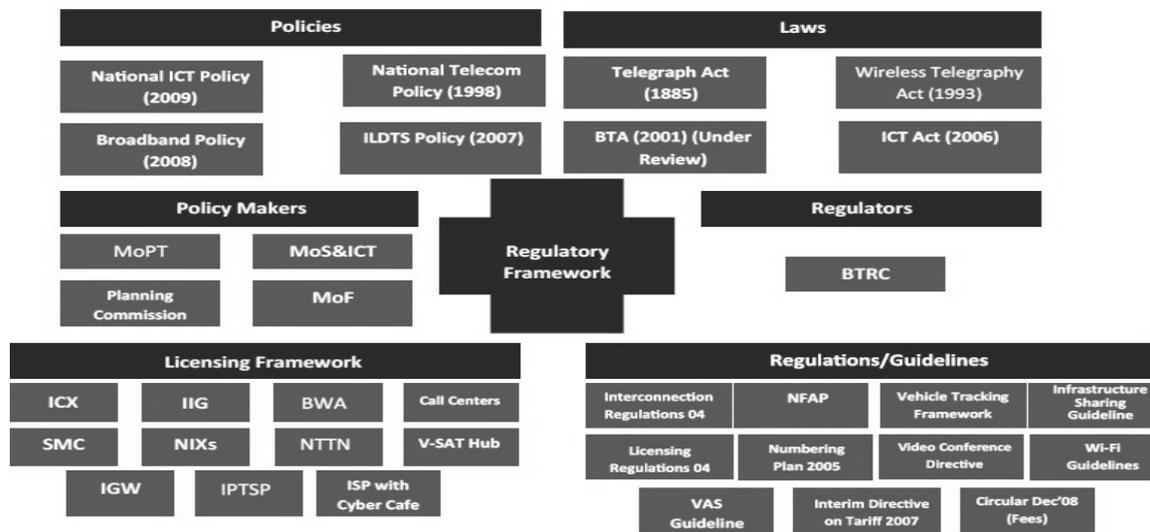


Diagram 2: IT & ICT Policies and Regulations in Bangladesh Source: Capital Research, Bangladesh Telecom Sector Challenges & Opportunities 2010.

It is worth noting that currently there is no extensive broadcasting policy in the country. But TV channels broadcast in light of the Wireless Telegraphy Act 1885, Telegraphy Act 1933, Television Corporation Ordinance 1967, Television Corporation Ordinance 1972, Bangladesh Television Film Censor Guidelines and Rules 1985, Guidelines for Radio and Television Programme 1986, The National Broadcasting Authority Ordinance 1988, The National Broadcasting Authority Ordinance (Amendment) 1988, The Television Receiving Apparatus (Possession and Licensing) Rules 1970 (As amended up to 01, January 1995), Act for Reservation of Terrestrial Facilities for BTV 2006, Policy for supplying programmes by

government, private and individual in BTV 1991, Standard Leasing Rate of BTVs Facilities (Revised) 1991, Private Programme Production Policy in BTV 2001, Bangladesh Television Authority Act 2001, Private Satellite Television Establishment and Operation Policy 2007, and Ordinance for Cable Television Network Operation and Related Regulations 2006. Bangladesh Betar broadcasts in light of the Wireless Telegraphy Act 1885, Telegraphy Act 1933, Bangladesh Betar Authority Act 2001, Bangladesh Betar Advertisement Guidelines 1979, Private Radio Establishment and Operation Policy 2006, Community Radio Installation, Broadcast and Operation Policy 2008, Private FM Radio Installation, Broadcast and Operation Policy 2010 and Bangladesh Telecommunications Act 2001. These laws are purely sector specific regulations, can only cover designated area and cannot be used in a situation where several areas of laws are congregated as a result of convergence. For example, sector specific regulations used in Broadcasting and Telecom sectors could come to overlap and manifest contradiction in many cases where convergence resulted through broadcasting with the aid of internet. New developments facilitated by the convergence of technologies, entailed this need for a paradigm shift in the regulatory framework to encourage the adoption of convergent technologies, and do away with differential treatment,^{xvi} resulting thereby in this effort to merge regulations governing various services and remove the multiplicity of licensing requirements.

Broadcasting

Generally, broadcasting is the practice of creating audio and video program content and distributing it to the mass audiences of radio and television. In technical term, broadcasting is the distribution of audio and video content to a dispersed audience via any audio or visual mass communications medium, but usually one using electromagnetic radiation (radio waves). The receiving parties may include the general public or a relatively large subset thereof.^{xvii} According to Bangladesh Telecommunication Law 2001, the expression “broadcasting” means transmission of any message, information, signal, sound, image or intellectual expression by radio wave, satellite, cable or optical fibre connection for the purpose of receipt by the public, but transmission of anything by Internet connection shall not be deemed to be broadcasting.^{xviii} This definition provides two tiers test for broadcasting i.e. (a) transmission should be designated for mass public (b) transmission with the aid of Internet connection shall not be considered as broadcasting. This definition conflicts with the concept of convergence. Traditionally, it is easy to differentiate between what constituted broadcasting (transmission of any message, information, signal, sound, image or intellectual expression by radio wave, satellite, cable or optical fibre connection for the purpose of receipt by the public), for the purpose of the regulation, and what did not, such as IT and telecommunication systems. However, the convergence of these technologies has made this distinction increasingly difficult as digital convergence forced the ICT, telecommunication companies to link up with other forms of media providers. For example, in recent time radio programmes are transmitted through the Internet and TV programmes are also disseminated with the aid of the Internet. This process is facilitated by the fact that multi-media technology is software-based. As developments in computing processing capacity, memory, and speed and compression technology are all central to the rapid development of digital convergence, which enables text, data, video, audio, image and animation to all be reduced

to the same basic characteristics of digital or binary codes. All of these various types of digitised information then become fundamentally the same, as they can be transmitted and distributed as binary code in real time. Therefore, with the help of ‘sector specific regulations’^{xxix} which currently governs the broadcasting and communication industry, convergence issues are less likely to be covered. As mentioned earlier, broadcasting is conducted based on sector-specific regulation, in recent days within Bangladesh. This has meant that special rules have existed for the regulation of ownership and control of broadcasting, instead of relying on general laws. With the advent of digital convergence, a major concern is whether and how far such special regulations should be extended as text, data, video, audio, image and animation are reduced to the same basic characteristics of digital or binary codes. Further, “digital convergence creates the possibilities of Internet based digital multi-media channels containing conventional TV, IT and radio programmes, as well as a wide variety of passive or interactive entertainment, communications and information services delivered to the home or work place. The phenomenon leads to a merging of services that were once deemed distinct from one, another, but can now be delivered by the same infrastructures, as well as a merging of products, thus having a profound influence on the everyday life of consumers.”^{xxx} The issues discussed above, does not fall within the ambit of broadcasting^{xxxi}, current legal regimes such as IT and ICT regulations are not properly equipped to handle these foregoing issues. Specifically speaking, convergence of IT, broadcasting, telecom and publishing media pose the question of whether legislation and regulatory structures are adequate to deal with the increased complexity presented by convergence. In absence of proper broadcasting law, such media abundance can be under the control of a few privileged entities that will be able to determine content, utilisation, price, audience and access. Further, as prophesied before, the pace of technological progress towards digital convergence may produce a scenario whereby the current legal and regulatory framework can be overtaken by new technological methods which are not caught by existing regulations. This would suggest that national and international media, telecommunications regulations need to be radically changed as a result of the convergence of the audio visual, ICT and the telecommunications industry. Even if the current sector-specific regulation remains as convergence increases, our government should have a plan for the convergence in a way that recognises the split between economic regulation and a democratically accountable body looking after the public interest. As mentioned before, radio and TV services migrated onto digital and interactive technology platforms, the associated business models also undergo tremendous change and often require end-to-end business integration across content packaging, content delivery (transmission)^{xxii}, and content presentation (user interfaces/devices) in order to enable service innovation and maintain service competitiveness.^{xxiii} As such, it is recommended that the qualifier term “transmission of anything by Internet connection shall not be deemed to be broadcasting” in the last sentence of Section 2 (definition of Broadcasting) of BTA 2001^{xxiv} be removed to signify the encouragement of truly equal entry among telecom and broadcasting service operators. Moreover, statutory provisions like German Information and Communication Services Act (“IuKDG”) 1997^{xxv} may provide beneficial impact on the IT and ICT regimes. Further, the convergence of regulatory bodies regulating the above mentioned sectors is essential. The most prominent argument in favour of a converged regulatory body is that a converged regulatory body will be able to apply the same principles across various players irrespective of the technology and service they provide. OFCOM is the glaring example

of a converged regulatory body that deals with the convergence of IT, broadcasting, telecom and publishing media. Here, it is pertinent to note that some countries such as Australia, Malaysia, Hong Kong (SAR), and the United Kingdom have established a common regulator with responsibilities over the telecommunications and broadcasting sector. Regulators such as the Office of Communications (OFCOM) in the United Kingdom and the Malaysian Communications and Multimedia Commission (MCMC) have undertaken regulatory reforms to enact new converged regulatory frameworks that apply to all electronic communications networks and services. In Hong Kong SAR, the Office of the Telecommunications Authority (OFTA) is currently reviewing its broadcasting regulatory regime, and considering the benefits of establishing a unified regulator, merging the Broadcasting Authority (BA) and OFTA into one regulator to oversee the electronic communications sector. In Korea (Rep.), a new converged regulator with authority over telecommunications and television broadcasting—the Korea Communications Commission (KCC)—was created in 2008 from the merger of the Korean Broadcasting and the Ministry of Information and Communication (MIC) in order to facilitate a regulatory framework for IPTV services.^{xxvi}

Content Regulation

As a result of convergence between broadband networks, content-services and electronic devices, it is now possible to broadcast, stream or download digital content through different networks on both fixed and mobile platforms. This is creating new delivery channels for traditional content like television, radio programmes, films, games or music. At the same time, convergence is opening the path to the development of groundbreaking content services, such as online gaming, or interactive TV, meeting consumers' willingness to personalise content and to interact with it. A major trend resulting from convergence is the development of new applications, building on the capacity of ICT to involve users in the content creation and distribution process. Social computing applications such as blogs, podcasts, wiki, or video sharing, enable users to easily create and share text, videos or pictures. Conventionally telecom operators are not accountable for the content that was transmitted through their services, while broadcast and printing and publishing industries are held responsible for the content transmitted by them. Content transmitted through the broadcasting and printing and publishing sectors are regulated and governed by the copyright, broadcasting and censorship laws in Bangladesh. On the other hand, telecom service providers in Bangladesh are only allowed to provide non-discriminatory access to the network without accepting the liability of an act done by their subscribers and the subscribers are responsible for ensuring the legality of the content transmitted with the aid of Telecommunication system. The basic question that stuck our mind at this point -whether the current systems and mechanisms that are used to regulate the broadcasting, printing and publishing regime can blindly be used in the world of convergence, as convergence integrated broadcasting, IT and ICT by merging their differences. The challenge before the regulatory agencies of Bangladesh is to regulate the content resulted from digital convergence such as -rabble-raising materials, socially detrimental or inappropriate content, illicit content, defamatory materials, false propaganda, etc., without violating the principles of freedom of speech or access to information. Unfortunately, this cannot be done without enacting new laws or amending

existing laws. Though the current Bangladesh Telecommunication Act, 2001 and the Information and Communication Technology Act, 2006 are the Statutes in *pari materia*^{xxvii}, therefore, these Acts must be interpreted in light of each other since they have a common purpose for comparable events or items, broadcasting regulations are not Statutes in *pari material* in this regard, this produces absurdity and inconvenience in the legal realm in promoting convergence where broadcasting, IT and ICT are involved.

As said before, convergence has far-ranging implications for ICT service providers and users. It changes business models, expands markets, increases the range of services and applications available to users, and alters market structure and dynamics. Our ICT sector is governed by Information and Communication Technology Act 2006. The Information and Communication Technology Act was based on the United Nations Commission on International Trade Law Model on Electronic Commerce to regulate e-commerce, computer crimes and internet use. It provides for legal recognition of electronic records and digital signatures, the establishment of certification authorities and the creation of an “Appellate Tribunal”. The law prescribes criminal penalties for computer misuse, publishing of obscene information in an electronic form, and breach of privacy committed in Bangladesh but fails to address the convergence issues.

Copyright

Copyright is a form of intellectual property (as patents, trademarks and trade secrets are), applicable to any expressible form of an idea or information that is substantive and discrete.^{xxviii} It relates to artistic creations, such as books, music, paintings and sculptures, films and technology-based works such as computer programs and electronic databases. The fundamental goal of copyright, is to provide incentives for the creation and dissemination of works of authorship, continues to be important to the furtherance of knowledge and culture. In Bangladesh copyright falls within the ambit of statutory protection of intellectual property and governed by the Copyright Act, 2000. Under section 15 of the 2000 Act, copyright protection is granted on original literary works, dramatic works, musical works, artistic works, cinematograph films and sound recording. Further, this protection extends to the computer program. In Bangladesh, for ensuring copyright protection the author of an original work should register his claim under Copyright Law by Registering. Although under the 2000 Act, registration of copyright is optional for legal protection, but copyright claim is only legitimate if an author validates his right by the registration and obtains the certificate of registration.^{xxix} It is worth noting that prevailing copyright law has by and large been formulated according to principles of “technological neutrality”^{xxx}. It has focused on the nature of the use of the work, rather than the medium, by which the use is accomplished, or the physical facilities or equipment involved. Thus the prevailing law has granted to authors the rights to reproduce the work, to adapt it, to perform it publicly, and to communicate it to the public. The primary exception to this technological neutrality has been the separation of a ‘broadcasting right’ from the ‘general right of communication’ to the public. But the convergence makes an original work being exploited, by promoting the original work to reach the public as a copy, a communication, or a combination of both. For instance, new software now available that not only allows users to exchange files of

music, drama, movie or other protected works, but also decentralizes and masks the sources of the infringing material. Convergence can be seen here as well, in the sense that access can be obtained to any category of work, no matter in what format it was first acquired. These programs, chief among them Freenet^{xxxii} and Gnutella^{xxxiii}, avoid establishing centralised servers and mask the identities of users. This makes it difficult to block access to infringing material, or to track down the responsible parties. If consumers find these sources to be an attractive option, the technology of infringement may undermine markets to some extent, but will not destroy the value of copyright.^{xxxiii} But the integrity of the copyright will be very much questioned. Apart from it another copyright related challenge may arise from convergence. For instance, those who make their works available online often do so under the protection of click-on contracts, requiring would-be users to agree to the terms and conditions for use as a condition of access to the works. These terms and conditions may be more restrictive than the default rules of copyright, barring users from engaging in acts that would otherwise be permitted under exceptions and limitations to rights. These acts undermine the core concepts of copyright law, causing inconvenience to consumers as well as the proponent of converged technologies. To overcome the current fragmentation of management of subject-matter and right, it is necessary to amend current copyright law that reflects the convergence of creative materials in the light of the WIPO Copyright Treaty (WCT) of 1996 and the WIPO Performances and Phonograms Treaty (WPPT) and their successive developments. Intermediaries cannot wait for the legal framework to evolve. Speed is critical-legitimate markets must be in place as soon as possible, before the vacuum of the internet is filled with infringing material and consumer patterns become deeply entrenched.

Bandwidth Policy 2009 and Convergence

As said before, convergence gives rise to new services and applications which are bandwidth intensive, requiring an existence of broadband infrastructure. Broadband take-up, along with the convergence of networks, content services and electronic devices, is progressively creating the critical mass of users and the technological environment which demands for the high-bandwidth content services to emerge.^{xxxiv} The emergence of these services is in turn further stimulating broadband take-up and the wider adoption of ICT. However, a number of technological, economic and legal challenges must be addressed for online content services to achieve their full potential for growth and innovation. In particular, available bandwidth in Bangladesh is adequate for content services such as web downloads, but insufficient for higher bandwidth services, such as online movies, television or games. These new content services require wider broadband penetration and increased download and upload capacity. Only with broadband access is the use of complex services (e.g. multimedia services) attractive or possible in the first place. Developed countries may not face a shortage of bandwidth dilemma; the same may not be said about most of the developing countries where telecommunication infrastructures are still relying on narrow-band technologies. Countries like Bangladesh are facing the challenge of upgrading their infrastructure to avail the benefits of the technological convergence. Over the years, the price of internet bandwidth is high in Bangladesh compared to other developing countries.

Internet price same operator different country's			
Operator	Bangladesh (1GB)	Other country's	Equivalent approx cost
Airtel	Tk300	1.2GB - Rs299 (Airtel, Sri Lanka) 1GB - Rs125 (Airtel, India)	TK180 Tk165
Banglalink	Tk275	1GB - Rs150 (Mobilink, Pakistan)	Tk120
Grameenphone	Tk300	2GB - Rs500 (Telenor, Pakistan)	Tk394
Robi	Tk275	900MB - Rs159 (Dialog, Sri Lanka)	Tk96

Table One: Comparison between internet price of neighbouring countries. Source: Dhaka Tribune

In 2006 Bangladesh got connected to the SEA-ME-WE 4 Submarine cable. After that ISPs^{xxxv} have found the opportunity to connect the internet via BTCL^{xxxvi}. Since then BTCL had become the only service provider and thus monopolized the sector up to 2008 when Mango Tele Service received their license as the first and only private IIG^{xxxvii}. These two IIGs are connected to BSCCL^{xxxviii} and are providing bandwidth to all the ISP operators of Bangladesh. But due to unidentified reason, Bangladesh is unsuccessful to provide its people with high speed internet. Low bandwidth to some extent compelled the citizens not to enjoy the benefit of convergence. Recently, Bangladesh Submarine Cable Company Limited, (BSCCL) has signed a MoU with BSNL^{xxxix} as a first step to export IP Transit bandwidth to the north-eastern states of India across the eastern land borders of Bangladesh. Initially BSCCL will export 10 Gbps bandwidth to India under this MoU depriving its own people. We are very much surprised that in the policy making level no consistent course of action is promoted in Bangladesh to handle the benefit and issues of convergence. Fortunately, in National Broadband Policy 2009, the policy makers were diligent enough to cover convergence issues. In Article 9.2 of the NBP 2009, it is stated that convergence of various laws are essential to promote convergence. Further, in the National Telecommunication Policy 1998 (NTP98) it was also acknowledged that there is a critical need for easy and affordable access to Internet services, regrettably BTRC's pricing and regulatory strategy on ISPs remained restrictive for unknown reason.

A. Submarine Cable IP Bandwidth		
Slab	Slab Bangladesh(Duplex)	Monthly Recurring Cost(MRC){BDT/Mb/Month}
1	1-18 Mbps	27,000
2	19-45 Mbps	26,000
3	46-99 Mbps	24,000
4	100-above	22,000
B. Satellite IP Bandwidth		
Slab	Slab Bangladesh(Duplex)	Monthly Recurring Cost(MRC){BDT/Mb/Month}
1	1-5 Mbps	1,30,000
2	6-10 Mbps	1,28,000
3	11-15 Mbps	1,25,000
4	16-above	1,22,000
The above charges are excluding 15% VAT		

Table Two: IP Bandwidth Cost at a glance. Source: Capital Research, Bangladesh Telecom Sector Challenges & Opportunities 2010.

Conclusion

Like most countries, separate licenses have been issued in Bangladesh for basic, telecom, IP, satellite, broadcasting and cable TV operators, each with a separate industry structure, different conditions of entry and varying requirements of creating infrastructure. Convergence now allows operators to use their facilities to deliver some services reserved for other operators, which necessitated a re-look into the existing legal framework. Consequently regulatory reform is needed. Moreover, existing rules were defined for a national, analogue and mono-media environment which undermines not only the rationale for but also the feasibility of most regulations. Two directions of regulatory reform that are necessary within the Bangladesh in this regard: (1) the migration of communications regulation from the national level to the international level; (2) Sector Specific regulations must be converged;(3) the creation of a single regulatory framework to cover all areas of the information and communications technology and telecommunication sector.

- (1) The migration of communications regulation from the national level to the international level:** The US was the first country to merge technology-specific regulators to regulate across telecommunications, media, and broadcasting services, with similar

examples in Austria, Canada and Portugal. Updating regulatory frameworks of Bangladesh to address emerging industry, market, and public interest issues in the light of international conventions and proposed guidelines {such as the International telecommunication regulation (ITRs) 1988, WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT) , the European Union-wide frameworks set out in the Communications Directives of 2001 and proposals of the World conference on International Telecommunication 2012} is essential to promote convergence. Updating regulatory framework includes the re-conceptualisation of definitions used in converging equipments, technologies and services so as to improve the regulation of standards and the licensing of converging technologies and equipments. These issues will be particularly important where separate regulators cover specific technological areas. Convergence increasingly needs cross-product and cross platform regulation and licensing. Regulators must be encouraged to co-operate and integrate their regulatory efforts, and should ultimately consider merging regulatory bodies as discussed below.

- (2) **Sector Specific regulations must be converged:** Convergence of various services such as voice, data, and video has been made possible due to the development of digital technology. Images are now being transmitted through telecommunications networks, and internet services are provided through cable television networks. Furthermore, telecommunications operators are developing various convergent services in order to provide high value multimedia content, while broadcasting operators are developing and providing premium services with additional interactive functions. This trend has given rise to a new type of convergent service that is the result of the merger between telecommunications and broadcasting services, which is rather difficult to categorise based on traditional classifications and, which stands beyond the clutch of prevailing sector specific regulations; such as Internet TV and other converged services such as Digital Audio Broadcasting. These services are encountering many problems resulting from the outdated Sector Specific laws. Let me be more specific, digital audio broadcast operators, due to their broadcasting nature, could not provide data service unless they adhered to the Telecommunications Act which does not recognize the concept of broadcasting through internet. However, before the enactment of the Telecommunications Act, the digital audio broadcaster, internet TV operators were not disqualified to provide services because they were considered to be broadcasters as per broadcasting laws. The above-mentioned examples clearly show that convergence does have a great impact on telecommunications and broadcasting regulations, as legal provisions in these areas remained stagnant for long ignoring essential changes. The boundaries between telecommunications and broadcasting are becoming increasingly blurred now a days and the existing laws seem to be outdated; therefore, prevailing Sector Specific regulations in these areas are to be repealed and to be converged.

(3) The creation of a single regulatory framework to cover all areas of the information and communications technology and telecommunication sector:

In 2001, Parliament enacted the Bangladesh Telecommunication Act to “regulate telecommunications services”. This law established a regulatory entity called the Bangladesh Telecom Regulatory Commission (BTRC). BTRC is responsible for making recommendations to the Government on telecommunications, “supervising” service providers, and, more importantly, settling disputes between service providers and consumers and among service providers. It is the authorized body to investigate and judge any lodged complaints against the telecom operators. BTRC encourages competition and discourages monopolies of one or more telecom service providers. It also assists the government regarding new policy to be adopted for telecommunication industry. So far BTRC had failed to take proper initiatives to handle convergence issues in legislative level and planning stage. As BTRC does not have the power to regulate broadcasting, like the German Information and Communication Services Act (“IuKDG”), enacted in 1998, or the British cross-media regulatory authority the Office of Communications (“Ofcom”)^{xl}, therefore, a new regulatory body is needed to overcome an outdated regulatory regime that treats media that performs the same function differently, for example, email viewed via the television differently than email read on a laptop. Like the IuKDG, the new Bill should create new terms for communications providers to replace outdated concepts. Broadcasting should be redefined to create a framework under which new services can be classified as they are developed. As the present regulatory framework of broadcasting and telecommunication in Bangladesh fails to accommodate the need of the public in larger extent and fails to play its role as it should be in the contemporary world, it should be reformed and new regulatory framework and regulation should be constituted for the convergence of broadcasting and telecommunication technology according to the need of the people. Therefore, unique approaches must be accommodated as an attempt to secure non-discriminatory access to the information gateway to guarantee consumers the right to use any and all communications media fairly resulted from convergence.

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- xxv Telephone services in Germany used to be regulated by the FAG (Law concerning telecommunications devices, “Gesetz über Fernmeldeanlagen”) and are now regulated by the TKG (The “Telecommunications Act”, BGBl. I S. 1120, date from July 1996.). The “Federal Act Establishing the General Conditions for Information and Communication Services” (IuKDG) of July 22, 1997, BGBl. I S. 1870, entered into force on August 1, 1997.) regulates services which are - just like Internet telephony - designed for individual use and which are based on transmission by means of telecommunication.
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- xxvii The general principle of in pari materia, a rule of statutory interpretation, says that laws of the same matter and on the same subject must be construed with reference to each other. The intent behind applying this principle is to promote uniformity and predictability in the law. When a statute is ambiguous, its meaning may be determined in light of other statutes on the same subject matter. Statutes in pari materia are to be construed together. *United Society v. Eagle Bank*, 7 Conn. 457; *State v. Gerhardt*, 145Ind. 439, 44 N. E. 409, 33 L. R. A. 313; *People v. New York Cent. Ry. Co.*, 25 Barb. (N.Y.) 201; *Sales v. Barber Asphalt Pav. Co.*, 1G6 Mo. 071, 06 S. W. 979.
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- xxx A principle that the law should not be limited to current, existing technologies. Under this principle, laws should be designed to reflect the reality of rapidly evolving media and technologies associated with copyright works and stand the test of time. In specific terms, technology neutrality means that different technologies offering essentially similar services should be regulated in similar manners. However, technologies offering similar services do not necessarily have similar features in all aspects, and exactly identical regulations may, therefore, result in the advantage of one technology over another in the market. Technology neutral regulation can, consequently, include slightly differing regulations for different technology solutions in the same market segments.
- xxxi Freenet is a peer-to-peer platform for censorship-resistant communication. It uses a decentralized distributed data store to keep and deliver information, and has a suite of free software for publishing and communicating on the Web without fear of censorship. Freenet and some of its associated tools were originally designed by Ian Clarke, who defined Freenet's goal as providing freedom of speech on the Internet with strong anonymity protection. Source: (a) Taylor, Ian J. *From P2P to Web Services and Grids: Peers in a Client/Server World*. London: Springer, 2005; (b) Beckett, Andy (26 November 2009). 'The dark side of the internet'. *The Guardian*. <http://www.theguardian.com/technology/2009/nov/26/dark-side-internet-freenet> : Retrieved 26 November 2013
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- xxxv Internet Service Provider
- xxxvi Bangladesh Telecommunication Company Limited.
- xxxvii IIGs will serve as a gateway for routing International incoming and outgoing Internet based data traffic. All ISPs shall be connected to global internet through these IIGs.
- xxxviii Bangladesh Submarine Cable Company (BSCCL) is a Telecommunications infrastructure service provider primarily through the international Submarine Cable and domestic high capacity optical fiber network. Thus, the service provided by BSCCL represents the gateway communication between Bangladesh and the rest of the world.
- xxxix Bharat Sanchar Nigam Limited (abbreviated BSNL) is an Indian state-owned telecommunications company headquartered in New Delhi, India. It was incorporated on 15 September 2000. It took over the business of providing of telecom services and network management from the erstwhile Central Government Departments of Telecom Services (DTS) and Telecom Operations (DTO), with effect from 1 October 2000 on going concern basis. It is the largest provider of fixed telephony and fourth largest mobile telephony provider in India, and is also a provider of broadband services. However, in recent years the company's revenue and market share plunged into heavy losses due to intense competition in the Indian telecommunications sector. BSNL is India's oldest and largest communication service provider (CSP). It had a customer base of 117 million as of Jan 2014.
- xl In United Kingdom, there is one body which regulates both telecommunication and media services. This regulator was established with passing of the Communication Act-2003 with the name of "The Office of Communication" (Ofcom).