

“Regulatory framework for Value Added Services (VAS) Globally – Case Study”

Submitted to

**Prof. Rekha Jain (Instructor)
Vidhee Avashia (Academic Associate)**

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By

**Ashish Labroo
Chaitanya Shravanth
Kamanasish Sen
Laura Carpenter
Nagpure Rahul Ajay
Rohan Anand**

(Group 12)

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Problem Statement

The telecom sector in India is moving in a completely *new direction from the Voice based services to the Data based services*. Also there is advent of IPTV and DTH in India, the regulations about which have not been completely decided. Our project is to see the regulatory framework in the developed countries like US & UK (with respect to the data based or Value added services in Telecom) and then compare these with the set of regulatory policies that have been implemented in the Indian context as well. The project will also involve a study of the present regulatory framework in India as far as the Technology Domain is concerned and try to study the impact of the various regulatory changes on the overall Technology sector. We will also try to find out the loopholes, if any – that exist in the current policies governing Telecom regulations in India.

Mobile Value Added Services

(Business Model & Value Chain)

Mobile Phones – Current Trends

In today's world mobile phones are not just devices for voice communication. They have become an essential entertainment device. We use mobile phones for expressing our thoughts, for social networking, playing games, reading news, and chat instantly and even do mobile banking. It has all become possible because of new generation technologies and services such as mobile value added services (MVAS).

Mobile value added services or MVAS are the services provided by the operator for which a premium price is charged. It encompasses all the services available in our mobile except the for the normal voice telephony. MVAS includes services such as:

1. SMS (short messaging services) –P2P (peer-to peer) and A2P (Application to peer)
2. MMS (Multimedia messaging services) – Sending images, videos, wallpapers etc.
3. USSD (Unstructured supplementary Service Data) – Interactive menu based services.
4. CRBT (Caller Ring Back Tone) – Hello Tunes
5. Mobile advertisements – Promotions, Discounts on buying etc
6. Video streaming – On demand movies (Airtel Live TV)
7. Polls and contests– E.g. voting for Indian Idol from your mobile
8. Location based services – Airtel friend finder.
9. m-commerce – banking applications, mobile recharge
10. Social networking – Facebook, Orkut, MySpace, Tweets
11. IN services (Intelligent Network) – DNB, Call divert etc
12. Infotainment services – news and updates
13. Surfing the Internet - browsing and downloading

Benefits of Mobile Value Added Services

1. **Mobile operators** – A great source of revenue. Currently VAS contributes 10% of the revenues for different Indian telecom companies. (Wireless Duniya, 2010)
2. **Application developers** – It helps them continuously develop new applications
3. **Media companies** – They get an opportunity to host new services
4. **Retail outlets**– There has been a huge upsurge in sales for these outlets
5. **Customers** – They have been getting what they want and literally the world is at their finger tips.

Business model of Mobile Value Added Services

There are many commercial agreements on the usage of MVAS and it works as in any other industry. These are the main types of business models:

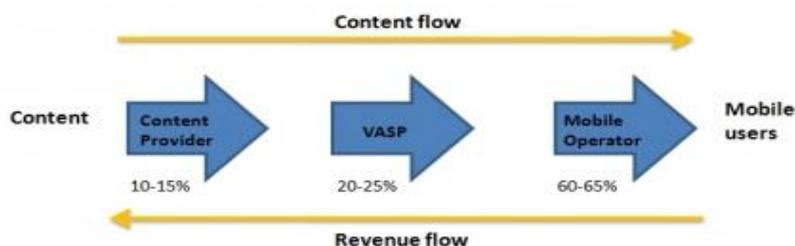
1. **Revenue share model** – The total revenue is being divided amongst the operators, content owners, service providers according to predetermined percentage share
2. **Managed services model** – Flexible model where the service provider delivers all the services and manages the complete platform, and the mobile operator is involved in the present and future growth strategies
3. **Licensed model** – The mobile operator/service provider purchases the platform at one time. There are no variable costs for the operator/service provider as per the agreement. The hardware investment is done by the operator in most of the cases.

Service Chain of Value Added Services

The share of revenue is done amongst the following groups:

1. **Content providers** – The content in the mobile handsets are provided by the content providers. They are sometimes embedded in the handsets in which case the content providers are in collaboration with the handset manufacturers. E.g. the content provider for Airtel for travel booking is Makemytrip.com. Mauj and Indiagames develop copyrighted content exclusively
2. **Value Added Service Providers (VASP)** – MVAS platform developers, all the content aggregators, and the service providers are called VASP (Value Added Service Provider). The platform is being acquired from the content providers and hence they make it portable with the handsets and according to the network portability. OnMobile and Cellebrum provide exclusive platforms in India currently
3. **Mobile network Operators** – The mobile operators are the touch points for the customers who provide them the MVAS. They are ones who are instrumental in deciding the tariffs and other charges.
4. **Mobile Handset Manufacturers** – The handset manufacturer also gets his due as there are many handsets where there is the embedded content. E.g. The Samsung Corby TV mobile had the embedded CDMA technology for live TV viewing.

5. **End Users** – Customers using the VAS from their mobiles form the other end of the value chain and use the data services in tandem with the voice services.



(Boston Analytics, 2010)

Market share of VAS product wise

In India, still SMS's constitutes the major portion of VAS, followed by CRBT. While the news services have become popular with the customers, the mobile commerce application is picking up (TRAI , 2009). According to TRAI mobile VAS is booming and expected to grow further.

MVAS application	Market share
SMS (P2P)	35%
CRBT	25%
VOICE PORTAL	15%
CONTENT DOWNLOADS (wallpapers, games, ringtones etc)	10%
SMS (P2A, A2P)	15%

Product wise market share (Pluggd, 2010)

The move from Voice to Data-based services in India has been phenomenal. According to industry experts, the VAS is expected for a turnover of over 21,000 crore by the year 2013. The present Average Revenue per User (ARPU) is around 8-9% and by the year end it is touted to grow to 12-13% with an increase to nearly Rs 11,000 crore. All the mobile players in India are expected to cooperate to bring mobile value added services (MVAS) to the masses. With over 500 million mobile users in India and over 65% of the country consists of rural population, it is a big challenge to take the MVAS to these areas. Another challenge is to provide multi-lingual services comprising of jokes, sports updates, matrimonial, astrology, mobile banking services to this percentage of public. The market is evolving continuously as new platforms, customers, generators, technologies are coming up every now and then and hence there is a huge scope of development. The future implementation of MVAS in India

would increase the penetration of mobile TV, location services and region content-based services. The further maturity of MVAS would increase the M-commerce applications in India. (TRAI report - 2008, 2010) (TRAI-Report on Mobile VAS, 2008)

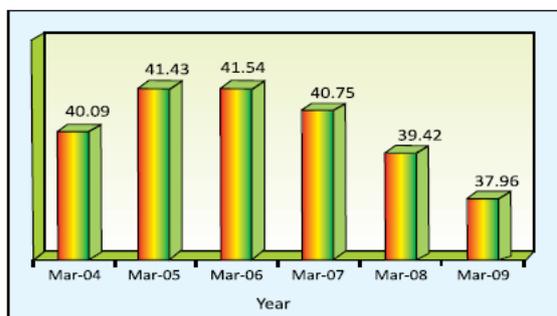


Figure 1.1 : Wireline Subscriber in Million

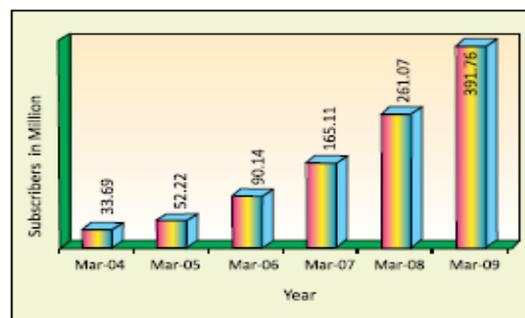


Figure 1.2 : Wireless Subscriber

(TRAI report - 2008, 2010)

Currently Bharti Airtel holds the maximum market share with 33% followed by Vodafone with 23% and then BSNL with 16% (TRAI-Report on Mobile VAS, 2008)

Currently, the greatest chunk of the revenue is being taken by the mobile operators and followed by MVAS service providers and finally the content providers. Gradually, the mobile operators would lose prominence in the value chain as what is happening in today's world. The content providers are aggregating hence the revenue stream would shift on their behalf. Moreover, new entities are emerging which are acting as merely content accumulators/aggregators and once they have substantial content with them, they can have a great bargaining power during the revenue sharing discussion.

Recent Boost from the government

According to the Internet and Mobile Association of India [IAMA], TRAI has rightly recommended that the MVAS industry would get a major boost after the 3G auctions and that a path needs to be charted to prevent any bottlenecks in its development. The major bottleneck is of the revenue sharing model amongst the various stakeholders. Effective cooperation and collaboration would go a long way to create an effective and efficient value chain of MVAS. The association (IAMA) has supported TRAI's suggestion to start an effective consultative process to "*Identify measures for the growth of the mobile VAS industry, including bringing them under the licensing process*" (Telecommunication- Press Release, 2010)

Regulatory Framework

(United States and United Kingdom)

Regulatory Framework in US- Voice and Data Services

Federal Communications Commission

It is the apex body governing the developments and regulations in telecom and communication technology sectors e.g. wireless etc. It is an important body of the government of the US and it has been established and empowered through an act of the congress. The president of the US appoints majority of the commissioners of the FCC. The FCC works in 6 distinct areas- broadband, competition, spectrum, media, public and homeland security and updating the FCC. (Federal Communications Commission, 2010)

Though the benefits of a strong central regulator in telecom sector are well known, however such a system is not likely to come in place in foreseeable future. Even in US there is the central regulator, the FCC and there are local regulators e.g. the state public utility commissions (PUCs). An integrated regulatory structure is required for the liberalization of the sector as well as to promote the development of infrastructure in the sector. Further, an empowered regulator can serve various useful purposes, e.g. reducing the entry barriers, ensuring fair competition in the sector etc. But in order to achieve all this, a streamlined regulatory framework needs to be in place (Keissling, 1999).

Regulations in Telecom Sector

The Telecommunications Act of 1996

Following the break-up of telecom behemoth AT&T into seven separate Regional Bell Operating Companies in 1984, each of the seven RBOCs plus two other carriers which had not been majority owned by AT&T began to operate and enjoy local monopoly status in their respective Local Access and Transport Areas. The Telecommunications Act of 1996, in an attempt to end these local monopolies, was designed to open “all telecommunications markets to competition”. The Act designated the existing local service providers as Incumbent Local Exchange Carriers (ILECs), and required them to provide access to their facilities by Competitive Local Exchange Carriers (CLECs) at rates set by federal regulators. Several shortcomings have been realized in the aftermath of this legislation:

1. The Act triggered the formation of many more CLECs that the market could bear, which was realized in a telecom bubble burst in the early 2000s.
2. The Act was narrowly focused on the traditional telephone, and did not anticipate the problems associated with the development of broadband and wireless services.

3. The Act differentiates between common carriers and information services. Carriers that offer information services are not subject to the interconnection and pro-competition clauses of the act. Whether or not a provider is classified as a common carrier or an information services provider can dramatically affect their business development. The Digital Subscriber Line (DSL) for example, was not classified as an information service provider until 2005, and up until such time it had been subjected to high carrier interconnection costs and other fees that were never encountered by cable internet, which was considered an information services from its inception. As such, cable internet has become the dominant standard due to the relative lack of competition from DSL.
4. The Act allowed the RBOCs to reorganize, which sparked a number of mergers and acquisitions that resulted in the nation's networks (roughly divided by geographical area) being owned by just three companies: AT&T, Verizon and Quest. This has limited the deployment of next-generation broadband services, as these are significant barriers to these companies offering services in their competitors' markets. For example, it is impossible to get Verizon's FiOS (bundled home Internet, telephone and television service operating over a fibre-optic communications network) outside the northeast.

Given the shortcomings of the 1996 Telecommunications Act as an appropriate regulatory framework for broadband services, a new legislative initiative is needed, but has of yet not been developed.

The telephony sector in the US has witnessed much regulatory activity for quite a long time. In an Anti-trust litigation involving AT&T (American Telephone and Telegraph Company) which was at that time the biggest telecom operator in the US, was broken down into seven independent holding companies (Bell System divestiture, 2010). Similarly, in early nineties there was an active debate going on regarding whether the amount of access allowed to a foreign firm should depend on the amount of access available to the firm in its home market. These questions became important when BT applied to enter the US market and AT&T applied to enter the UK market in 1993 (U. S. Industrial Outlook, 1994, 1994)

As the telecom and communication technologies have evolved substantially in the recent years and with the greater penetration of newer technologies like ISDN (Integrated Services Digital Network) which provide a bundle of services, the technologies have focussed on integration, of various products and services. This convergence has been spurred by various technological and market factors. An increase in digitization enhanced computing power and the establishment of a global standard of IP- All these have hastened the convergence process. This increase in convergence poses very specific regulatory challenges. There is a need to establish uniformity in various sub-domains of the communication sector. For

example, broadband as a sector is heavily regulated while telecom services are less regulated. And with this, the regulatory approach has also changed. The regulatory bodies are coming up with legislations which take into consideration the converging trends, both existing and potential. As new legislations come into picture, they are increasingly trying to provide the regulatory framework to address this issue. New laws are being made and the existing laws are being amended as well. (4.2.1 Legislative Approach, 2010)

Difficulties

Regulation was easier when the services were granular in nature. In that case each service had a different network infrastructure and it was very easy to distinguish it from others. For example, mono-directional voice and video traffic was carried on through a television however with the advent of digitized services, the same network could be used to provide multiple services. Regulatory frameworks were based on the basic premise that various services would be differentiable. But these interfaces and integration led processes made the issue of regulation very complicated. One very typical example of the case of regulatory difficulty is the service VoIP (Voice over Internet Protocol). Since this provides voice conversation like telephone on an IP (Internet Protocol) channel, it has created difficulties for regulators. For example, in Europe VoIP services have been categorized as internet based services while in Canada they are categorized as telecom services (Regulatory trends in service convergence, 2007). Also, with the increase in convergence, the problem of *Asymmetric Regulation* across services has come into picture. This situation, where regulation was different for different service, was easier to practice in an environment where services were segregated. But as the rate of technological advancement has been quite fast and that of expertise of the regulators has remained slow, there exists a possibility of regulatory confusion and regulatory arbitrage.

Spectrum

At a 'Broadband for All' conference on June 28, 2010, FCC Commissioner Meredith Attwell Baker stated that the FCC anticipates a 130% annual growth for mobile data services on the next five years, and predicts that within ten years the principle global means of Internet access will be through a wireless device. While the FCC's most recent National Broadband Plan seeks to make an additional 500MHz of spectrum available for use within the next ten years, it is predicted that a minimum of 1280MHz of spectrum is needed by 2020. In order to make the most of the existing spectrum, Commissioner Baker called for action in the following five areas:

1. "We should promote the creation of interoperable, dynamic spectrum data bases." The Commissioner hopes one will be developed soon in the US.

2. *“We must actively promote innovation and investment in state of the art radio communications technologies and infrastructures that can take advantage of the information the database provides.”*
3. *“We need to look at service rules to ensure they enable and encourage spectrum users to take advantage of the new information and technology”* Strict allocation and licensing rules can lock in a particular technology or spectrum usage and has resulted in inefficiencies in the US. By contrast, the flexibility of initial cellular licenses in the US allowed US networks to progress rapidly from analog to digital to 3G and 4G technologies.
4. *“We need to ensure secondary market rules encourage efficient spectrum use.”*
5. *“We need to look at ways to make the international spectrum process less cumbersome.”*

(Bakers Report, 2010)

Net Neutrality

A policy that prevents Internet Service Providers, mobile carriers and landline carriers from regulating the use of devices, protocols and applications on their network, this has been a hot topic in the United States for the past several years. Attention to the issue of net neutrality was sparked in 2007 by the discovery that Comcast was actively interfering with its customers' use of file-sharing programs like Bit Torrent. While there is currently no law against this, in 2008 the FCC issued an enforcement order requiring Comcast to cease and desist in further traffic manipulation and to disclose the methods they had used to manipulate internet traffic. Kevin Martin, FCC Chairman at the time of the Comcast case, as well as his successor Julius Genachowski, have stated the FCC's commitment to “preserving the open character of the Internet”, as guided by the following principles:

1. Consumers can access any lawful internet content that they wish.
2. Consumers can run applications and use services of their choice, subject to the needs of law enforcement.
3. Consumers can connect their choice of legal devices that do not harm the network.
4. Consumers are entitled to competition among network providers, application and service providers, and content providers (Federal Communication Commission Report, 2010) (Speech by Julius Genachowski, 2010)

Also at issue is the practice by telecommunications companies of charging different rates to Internet consumers based on the degree of bandwidth or speed purchased. Congress has considered several bills that sought to prohibit Internet service providers from using tiered service pricing models, but so far each attempt has failed.

Trends in the Sector

As the technology behind handsets was improving to support faster and better data processing and reception and various developments were taking place in the mobile software arena e.g. advent of better operating systems etc, it was becoming clear that the revenues from telephony sector would not be limited to voice. Various value added services (VAS) came into picture with immense revenue potential and the emergence of smart phones like iPhone completely changed the game. It became clear that in future the major amount of revenue would be generated through data services rather than voice. The Ericsson CTO Haken Eriksson quoted in an interview with a Silicon Valley based journal that by 2020, there would be 1000 times more data usage compared to voice (Michelle Walkden, 2010).

Broadband

The aim of the regulators in the telecom sector has been to provide affordable services to the consumers while allowing the providers to make normal profits at the same time. With the revolutionary changes in digitization techniques going on, broadband has emerged as the platform into which various other services (e.g. telephony) would be integrated and with intelligent use of IT, this technology will have great economic and social impact. Given the complex nature of the services and its repercussions, the FCC has been cautious and has been considering the first steps about regulation as late as June 2010 (FCC to consider first step toward broadband regulation, 2010)

Recent Developments

On August 12, 2010 two of the US Information and Communication Technology (ICT) majors Google and Verizon entered into an agreement. The FCC had been giving hints about its indication to put regulatory controls on broadband internet. Verizon has invested heavily in broadband connectivity through fibre optic cables. These two firms have urged the FCC to keep the regulatory controls relaxed for a while (Net neutrality, 2010).

Regulatory Framework in UK- Voice and Data Services

After the privatisation of BT in 1984, the telecommunications sector in the UK has been the focus of continuous discussion as to how it should cope with the rapidly changing technologies. The opening up of the sector in the early 1990s saw various new Public Telecommunications Operators (PTOs) being given licenses to operate on a national scale (Department for Business, Innovation and Skills, 2010). With advancement in technology, especially in terms of mobile communication and the World Wide Web, the telecommunications regulatory framework is a particularly complex structure. Some important features that shape this framework are the UK Communications Act and the Office of Communications, also known as the Ofcom (BCS, The Chartered Institute for IT, 2008).

The Communications Act and the Office of Communications

The UK Communications Act, 2003 tries to synchronize regulations across all countries which are part of the European Union, apart from addressing the issues of 'Framework, Authorisation, Access and Interconnection' (Department for Business, Innovation and Skills, 2010). The focus of the directives was also on technology neutrality. Apart from implementation of the Communications Act, the Office of Communications (Ofcom) was also established in 2003, whose primary objective was to ensure the proper implementation of the provisions of the Communications Act. The establishment of the Ofcom was necessitated by difficulty in co-ordination of activities of the various regulators who then operated separately. Ofcom replaced the following regulators as a 'converged regulatory authority' (ICT Regulation Toolkit, 2010):

1. The Broadcasting Standards Commission, which formulated broadcasting standards;
2. The Independent Television Commission, which managed licensing and monitoring independent television services;
3. The Office of Telecommunications, which regulated the telecommunications sector;
4. The Radio Authority, which managed licensing and monitoring of independent radio broadcasting services; and
5. The Radio communications Agency, which managed the allocation of non-military radio-frequency spectrum (ICT Regulation Toolkit, 2010).

The Communications Act assigns several roles to the Ofcom, while defining responsibilities with respect towards their fulfilment. Some of these responsibilities are 'optimal use of wireless telegraphy (radio communications) of the electromagnetic spectrum, the availability

throughout the United Kingdom of a wide range of electronic communication services, the availability throughout the United Kingdom of a wide range of television and radio services which, taken as a whole, are both of high quality and calculated to appeal to a variety of tastes and interests, the maintenance of a sufficient plurality of providers of different television and radio services and the application, in the case of all television and radio services, of standards that provide adequate protection to members of the public from the inclusion of offensive and harmful material in such services' (ICT Regulation Toolkit, 2010).

The Communications Act was aimed at deregulation and allowed service providers to function without the need for a license (except spectrum users); they instead had to ensure compliance with the various pre-defined conditions (termed as the 'General Conditions of Entitlement'). These conditions address various issues, such as 'interconnection standards, number portability, deployment of telephone numbers, access to emergency services, sales and marketing standards, special services for the disabled, broadband migration codes, and so on' (BCS, The Chartered Institute for IT, 2008). Some of the specific conditions included are 'conditions relating to the provision of network access and service interoperability, including the requirement to negotiate interconnection agreements, universal service conditions, the requirement to comply with the national numbering plan, must carry obligations (where a network is used for the carriage of broadcasting signals), the adoption of applicable technical standards, the availability of emergency services, operator assistance and directory inquiry facilities, consumer protection measures, such as published contracts and terms (Centre for Telecom Policy Studies, 2005) of service, accurate billing systems, the adoption of industry codes of practice and dispute resolution processes and special requirements for consumers with disabilities' (ICT Regulation Toolkit, 2010).

On the other hand, the Ofcom ensures that rules are met, and disputes, if any, are settled. The Ofcom closely monitors large players to ensure that the competition is healthy and that all practices followed are fair. It uses the concept of Significant Market Power to define the large players in the sector. On this basis, if the Ofcom comes to the conclusion that a particular operator does indeed possess SMP, it can 'impose specific SMP conditions to ensure that the SMP operator does not gain an unfair competitive advantage by virtue of its market influence' (BCS, The Chartered Institute for IT, 2008). These restrictions include imposing price caps, ensuring interconnection with other operators, and so on. BT was one of the operators considered to possess SMP.

To assess its ability to keep competition in check, the Ofcom conducted an extensive strategic review in 2005, a result of which was a greater interconnection between BT and other operators with respect to resources and network access. This review is of particular interest to other European countries facing similar competition-related problems.

The Competition Appeal Tribunal

For operators who seek to challenge the legal or economic decisions of the Ofcom, there is the Competition Appeal Tribunal. Many operators have approached the Tribunal to seek its opinion, especially since it has the power to override the verdicts of the Ofcom.

Internet Regulation

The UK government does realize the potential of the internet in terms of 'education, entertainment and business' (Department for Business, Innovation and Skills, 2010). It aims for a safe and friendly user environment, with wide access to a large number of users. The cost of using the internet is lower in UK compared to that in many European countries and the US. The UK government has passed laws that mainly aim to curb the negative aspects of internet, namely spam (unsolicited electronic mail) and inappropriate content. In order to take care of illegal web content, the use of content rating systems and filters are being actively supported by the government.

Regulatory Framework in India - Voice and Data Services

Regulatory Framework for Value Added Services

The initiation of creating a regulatory framework for VAS began with the issue of a Consultation paper on 28th May 2008 by TRAI. This paper sought the comments of all the relevant stakeholders. This was followed by open house discussions in July that year and January in the following years. TRAI preferred to have minimal interference in the provision of VAS services and thus it was decided that no separate licensing for VAS would be sought.

To address the various recommendations by TRAI and to acknowledge the comments by different stakeholders various recommendations are addressed separately in the consultation document. For better understanding of the aspects a similar treatment is meted out to the same here. The final recommendations given by TRAI after taking into account the comments of the various stakeholders are discussed here.

Definition of VAS

The very definition of VAS became an important aspect of the regulation process as the line between what would be encompassed under the regulations and what would not be depended solely on the definition of the Value Added Services. After all round discussions with stakeholders the following definition was acceptable and enforced by TRAI:

“Value added services are enhanced services, in the nature of non-core services, which add value to the basic teleservices and bearer services, the core services being standard voice calls, voice/non-voice messages, fax transmission and data transmission.” (Press Information Bureau, 2010)

Uniformity in Licensing Regime

The issue addressed here was whether there was a need to introduce a uniform regime to all VAS value chain players. It was finally decided to add relevant clauses in all the access service licenses to provide VAS. The various factors that these clauses dealt with were (TRAI , 2009)

- a) In case any operator decides to launch a service (VAS), he has to inform the TRAI about the offering along with the details of the monitoring process of these services atleast 15 days before these services are launched.
- b) Push mail services, video conferencing services, voice mail etc. Can be provided by the operator over its network.

- c) The operators can also provide broadband services which can include video, data, voice and IPTV along with internet telephony features.
- d) Public mobile trunking service (PMRTS) & GMPCS require a separate licence and cannot be provided as such by the operators.

Security on VAS and other Charges

In addition to the Licensing Regime for various service providers, the question on what security measures would need to be standardised across service and the charges to end customers was to be addressed. It was noted that there would be a minimum requirement of notifying the relevant authorities of the new Value Added Services to be introduced at least 15 days before launch so that the relevant on-demand monitoring by security agencies can be performed. In addition adequate measures need to be taken to ensure orderly growth in the VAS industry. The summary of the recommendations is as follows (TRAI , 2009)

- a) Mobile commerce applications that are being provided by the service providers will be subjected to the Reserve bank of India (RBI) regulations, wherever applicable.
- b) The access providers will have to abide by all the instructions that are released by TRAI from time to time and soon a concept of self regulation will also be introduced to minimize the time taken by the operators to launch never value added services.
- c) The various content providers who are providing value added services should be provided fair access to the infrastructure by the operators
- d) There shall be a transparency in the whole billing process with the specific details of the cost of a particular value added service made available to the users beforehand.

Licensing of Value Added Service Providers and Content Operators

The VAS Providers essentially provide a platform for the VAS content that would be provided by the **Content Providers**. These may be integrated with the access providers or may be independent vendors. The need for bringing them under a licensing regime like the access providers was hotly debated. The argument in opposition of licensing was to create a level playing field for the VASP and Content Providers in comparison to the Access Providers. Keeping in mind these arguments, TRAI recommended that it was not favourable to bring these players under the licensing regime. (TRAI , 2009)

VAS and Intellectual Property Rights in India

The question addressed here was whether any new set of Intellectual Property Regulations were needed for VAS content. Though in the first round of consultation Google, IMAI and

COAI gave some comments there were no comments on this issue in the second round of consultation. It was generally agreed between the stakeholders that there was no need to evolve any new IPR laws and existing laws could be applied to VAS content as well. (TRAI , 2009)

Content Regulation

The treatment to the VAS content in comparison to content in print, multimedia was defined in this aspect. Similar to the above case there were few comments on this issue in the first round of consultation and none in the second round. It was agreed that the treatment of the content would have to be uniform and same as that of multimedia and print. The content would be subject to various related laws such as the Information Technology Act, 2000, Indian Copyrights Act, 1995 etc and the guidelines of the Information and Broadcasting and IT Ministry. (TRAI , 2009)

Common Short Codes (CSC)

To ease the communication between the various players in the VAS industry there was a need to introduce the Common Codes. This would allow the access providers to choose freely between Content Providers. Comments were invited on the need of such codes and regarding who would formulate these codes. It was agreed after two rounds of Consultation that the same should be done by the Department of Telecom (DoT). The telecom access providers will get a block of 500 numbers that they can use as short codes for allocation to the various content providers that they will attach themselves with. The short codes will constitute a minimum of 5 digits. Moreover, a list of the short codes already assigned by the DoT will be placed on the website of DoT to ensure transparency and ease of access. Moreover, DoT will try to ensure transparency in assigning the short codes by using online process to provide access codes. (TRAI , 2009)

Revenue Sharing Model

The sharing of revenue between Access Providers, VASP and Content Providers was to be addressed either through free market model or through the Regulatory Frameworks. Keeping in line with the TRAI's intention of having minimal interference in the VAS industry it was recommended that the revenue sharing be left to negotiations among the players as long as the same are fair and transparent. (TRAI , 2009)

Indian Comparison with US & UK

Summary

The present laws in the telephone sector in India have their roots in the Indian Telegraph Act 1885, Indian Wireless Telegraphy Act 1933, The Telegraph Wire Unlawful Possession Act 1950 and the Cable Television Networks Regulation Act 1995. As the economy opened up in 1991, telecom was one of the first sectors to witness full action. In order to deal with the changed scenario, the Telecom Regulatory Authority of India Act of 1997 was passed which resulted in the constitution of the Telecom Regulatory Authority of India which was India's first regulatory institution in telecom sector. With the passage of time the TRAI was vested with several powers, e.g. the power to hear appeals in order to resolve disputes. Gradually TRAI started overseeing the bidding process for spectrum allocation and has emerged as an independent regulator working out of the influence of the Department of Telecommunication (DoT). The New Telecom Policy (NTP) introduced in 1999 further revolutionized the sector (Information and Communication Technology Regulatory Framework, 2005) and was more of the milestones in telecom revolution in India.

The telecom regulations in India have been very slow as compared to that in US and a lot of regulations have not even been completely developed as the Indian market has not yet seen the 3G technology and its usage completely. Once the 3G services are widely open in India, the TRAI is going to face the similar kind of problems as the US faced about 5-10 years ago and hence instead of reinventing the wheel, they can take a leaf out of the US regulators book and try to come up with the regulations faster. However, while coming up with regulations they have to realize that the Indian consumers are a lot different from the US consumers and a majority of them are located (65%) in the rural areas. Thus, any regulation/policies that they come up with should try not to create a split between the rural & the urban areas. The policies that will be needed to pick up the VAS/Data/3D services in the rural areas will be very different from the ones being used in the metros. However, there are some important points that India can take from the US telecom industry. One of the most important ones is the handling of the number of telecom operators. While it is necessary to have a number of operators in order to ensure better and competitive service, the same can be quite difficult to control as happened in the case of US where a large number of operators led to the creation of a telecom bubble which finally burst in 2000. We should be prepared for a number of mergers/acquisitions in some time from now as the operating profits of a number of operators are dropping due to increased number of competitors and changes in the technology.

The Indian telecom sector is one of the largest networks among the emerging economies. Like in the UK, the origins of reform in this sector can be traced to the 1980s when the private sector was first allowed to enter the field of telecom equipment manufacturing (ICT Regulation Toolkit, 2010). Further, in the 1990s, with major reforms in the telecom sector taking place in many countries including the UK resulting in cost efficiency and better service, Indian regulators picked up the trend and opened up the Indian telecom sector, till then considered a natural monopoly of the State, to private players (Centre for Telecom Policy Studies, 2005). Roughly akin to the Ofcom, telecom regulatory bodies were also set up in India, such as Telecom Commission and the Telecom Regulatory Authority of India. With the sector becoming more and more competitive, review strategies like those used by the Ofcom may be necessary in ensuring a fair and level playing field through interconnection among operators and network and resources sharing. Moreover, there is an increasing need to have separate regulatory authorities each of whom takes care of a particular segment of the sector as in case of UK. The bias that has been there in the minds of the people regarding the transparency of TRAI has also to remove (due to the presence of BSNL/MTNL – both of which are public operators) by privatizing the public behemoths and laying down a level playing field for all the operators.

Indian telecom sector is quite similar to that in case of US and UK and has more and less been following the changes in these 2 economies. All of them had an incumbent who was a government undertaking and then private participation was allowed in order to increase competition and improve the services. However, we have been proceeding at a much slower pace as both US and UK have already passed the 3rd generation and hence have better VAS applications as well as regulations have been well defined now.

Analysis : The three Markets

US policies – Status Check

While a number of policies related to VAS have already been put into place in US, be it data services, VoIP or Broadband services but they haven't still been able to achieve the goal of efficient utilization of the spectrum which is one of the major issues concerning them. There still are no such clauses in any of the policies that provide the operators with the required incentives to indulge in optimum utilization of the spectrum. With the advancements in the technology over the last decade, it won't be difficult for the operators to achieve the task of spectrum utilization however the lax attitude of the policymakers related to this issue is not motivating them to invest in any such activity.

As far as net neutrality is concerned, US is far ahead of India in terms of its regulations but there still is a need to make the policies even more stricter so that the customers can have a seamless connectivity and the operator influencing the choices of the users is reduced to a minimum.

There are also some concerns regarding the interoperable and dynamic spectrum databases as the way these will be accessed needs to be monitored with much more detail and the mechanism of accessing this database also needs to be devised as it is going to be a first of its kind development. The regulatory authority also has to ensure that no one operator gains any significant advantage due to its policies as far as accessing the common pool of spectrum is concerned.

As far as the broadband services are concerned, there is a clear monopoly zone wise in US with each one of the big three operators taking care of one of the 3 zones. The regulatory authority should also make some changes in its policies related to broadband so that competition can be allowed to grow in the broadband segment as well.

UK Policies – Status Check

As far as the regulatory policies related to telephony, VAS and Broadband are concerned, UK is far better than US in this. There is a greater need for this as well as the telecom penetration is much higher in UK as compared to the US and hence there is a need for much stricter regulation as a larger section of the society is affected by these policies. The concept of levying charges on any operator that had a significant market power (SMP), so as to prevent it from making improper use of its scale and monopolizing the whole sector was the first of its kind and is something that The Indian Telecom sector could also have adopted while going for privatization.

The regulations in the broadband sector are also well defined thereby ensuring healthy competition in the industry and the customers are provided with a wider choice of operators and neutrality is maintained as far as it can be while accessing any of the broadband services.

The data services and the regulations concerning them and how these are to be monitored have reached a stable phase as data services have been used in the UK for close to 7-8 years now. The regulations regarding net access on the mobile devices, mobile banking, Voice over IP have been framed properly ensuring no undue advantage to any specific operator or the content provider and in proper correlation with the banking norms (in case of m-commerce) and the internet telephony (in case of VoIP).

Indian Policies – Status Check

The Indian sector as far as VAS and Broadband is concerned, is relatively much newer as compared to its counterparts US and UK. Even though the growth of the telecom sector in India as measured by the penetration is one of the highest in the world, it still has a long way to go. India is still in the 2nd generation of mobile telephony where the opportunities for data services is quite limited but even then we have seen some highly innovative VAS products like CRBT (Caller Ring Back Tone) and MMS amongst others. However, there are no guidelines issued by the Telecom regulatory authority of India (TRAI) as to how the various services should operate apart from a few m-commerce applications that need to follow the RBI guidelines. The TRAI has to put the foot forward to ensure that operators like Bharti which has 33% of the market share doesn't use the VAS to acquire or differentiate between the customers and to ensure a fairplay and neutrality in the whole system.

TRAI also is the sole authority handling all DTH, Broadband & Mobile connectivity regulations and there also needs to be a change in this stance and it can adopt the strategy as adopted by the UK regulators by forming a separate authority to take care of each one of them.

Moreover, there is a huge ambiguity as far as the spectrum allocation is concerned in India and since there the spectrum is limited, TRAI should also come up with regulations or policies to ensure the better utilization of the current spectrum and also ensure that the future spectrum allocations are done in a way so that none of the operators have an advantage over the other. Also, there are some questions related to the TRAI stand towards MTNL and BSNL and this also needs to be changed and can be easily done by using the SMP technique as done in UK.

As far as policies regarding the new 3rd generation services are concerned, TRAI should try to see the kind of policies that US has adopted related to Value added services and should try to map these in the Indian context. TRAI can also look at countries like Japan and South Korea where data services currently form 90% of the total mobile services to see how they are regulating the companies and the new offerings that are being made available on the 3rd generation platforms.

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