

**Iptv is a relatively  
new technology that  
is only now being  
provided to  
consumers ...**

[Business, Marketing](#)



i. Detailed description of the area researched

IPTV stands for Internet Protocol television and it is a relatively new technology which had seen a significant rise in demand. This is usually transmitted /delivered by the service provider, or it can be fee based or even be free based and in its mode of transmission can either be stored video or a live store. Sometimes it is also bundled with other types of services such as internet access and VOIP services. Nowadays, a greater number of businesses are integrating this unique technology as a part of their product offerings. The application of IPTV is still in its initial stages and is going through a transitional phase. A major difference of these networks is that the television services are delivered over an Internet Protocol; however, it is not the same thing as satellite, cable or other television services. The video streaming is done by encoding it in the form of IP packets and then transferring them through the network.

The traditional television networks are able to run different types of programs at the same time and the viewer simply changes the channels based on their individual preferences. However, the IPTV network is capable of handling only one program at a time and therefore only the specific program chosen by the viewer is actually delivered. When the viewer wishes to change the program, a new program is relayed from the provider's network directly to the viewer. Similar to the cable form of network, the IPTV also requires a set-top box otherwise the programs cannot be relayed to the viewer.

The services provided by IPTV can be broadly divided into three key parts; line television, time-shifted, and video on demand. The line television is

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broadcast in real time but it may or may not have interactivity associated with the program in question. The time shifted service is a more convenient service as it allows the viewers to store or record the program and view it at their own convenience. The third variation called video-on-demand includes other videos excluding the traditional TV programs. The viewer can browse through a virtual catalogue of the videos and then choose one from there.

IPTV saw its first commercial operations in the year 1994 when ABC channel achieved a remarkable feat by becoming the first channel to broadcast a television program over the internet. The term IPTV itself was created a year later in 1995 by Bill Carrico and Judith Estrin as part of the “ Precept Software”. The application of IPTV has subsequently increased over the years. Although, initially it was mainly used for operations in commercial bodies; nowadays, IPTV has reached the doorstep of ordinary people. Increasingly, this relatively new technology is been used for providing superior television programs over an internet protocol.

The aim of this paper is to analyse a relatively new technology called IPTV and the way in which businesses are increasingly using this to cater to the needs of their customers. Western Europe and North America are quite familiar with this technology, however, it is also enjoying wider acceptance in various regions spread across the Asian region.

#### ii. Technology involved in the area

Traditionally, all programming broadcast is done simultaneously in television delivery; in essence that the available program mainly signals the flow downstream, and the viewer can select the program they want to watch; by

simply navigating through the channels (Paul, 2011).

The contents are at custody of the service provider network and the network selected by the customer is actually delivered. This ceases to be the case that when a viewer changes any channel, a new program is transmitted from the provider particular server directly to the viewer. A set top box is required in TV and IPTV. This is the decoder box which is the link between the television and the network point or a telephone cable. The service providers incorporate voice, video and data services in their broadband network. Some service providers incorporate television channels with satellite companies, which ensures, that a customer can access programs from anywhere in the world. It enables subscribers to offer personalized services from the comfort of one's home and enable sending of messages to friends watching the same program. Companies can also offer targeted messages to persuade the subscriber buy goods and services (Sparrow, 2007). Internet Protocol Television can be employed for security purpose in homes and property, also offer entertainment on mobile gadgets. It allows those audiences that have been neglected by mainstream media companies to get high quality content in entertainment. Another feature of internet Protocol Television is that it is offered under closed network to ensure that the service providers have control of the service as it is distributed. This occurs such that cases of theft are reduced on the content which includes such malpractices such as piracy (Sparrow, 2007).

The common feature or elements consist of content producers which includes movies and documentaries. These are companies that create the content with an aim of selling to the clients. The companies have suppliers of

hardware materials such as servers and receivers. The third component is the telephone companies or internet providers that connect the subscriber to the internet world wide web. The last component of the Internet Protocol Television is the device that connects the television to the cable lines. This is the set top boxes which are end devices. With this components, the chain or elements of the internet protocol television is complete (Fritz, 2008)

The main are of concentration of internet protocol television is the video transport in line with applications and technology. Video signal transportation nowadays has become a round the clock business, in transportation of entertainment, educational and personal communication signals. Such videos are usually delivered via Internet Protocol (IP) technologies. Internet Protocol Television is a means by which traditional broadcast channels are delivered to consumers over an IP network replacing the common terrestrial broadcasts (Fritz, 2008).

Internet protocol television can be seen to be different from the normal television in that, it enable more bandwidth to be uploaded unlike the traditional television where the there is broadcasting platform which can only be utilized by many individual at the same time. In this advanced technology, each subscriber gets the streams on his or her own. It is based on the idea of multicasting. It is also different to traditional television in that it combines interactive platforms such that a subscriber will be in a position to personalize viewing. They can receive entertainment, communication and instant sending of messages (O'Driscoll, 2001).

The internet protocol television has different applications or services that the subscriber can enjoy. Some features such as EPG helps the subscribers to

select the programs they want to listen to and watch. These include on demand television, services such as banking, entertainment and online trading. These services that are associated with Internet protocol television is the way they subscriber can personalize the services. Viewers can log in at their leisure time and access content. This means that there should be demand video content. Using the top boxes, the subscribers can browse the internet to get content. This is delivered through the television screen which can also be used to check emails. This however needs to have keyboard which are connected to be top box. If the subscriber does not want to view content immediately, the hardware has hard disk to which can record all content for later viewing. At the same time, the subscriber can communicate with other subscribers.

Other features that can be integrated are the parental control which can enable restrictions of the content accessible to the children. Service providers can target subscriber with information on various spectrum. These include advertising on various products as well electronic trading in goods and services (O'Driscoll, 2001).

### iii. Future trends in the area

IPTV has undoubtedly seen an increasing demand over the past couple of years. Now businesses are expanding their horizons to ensure that they are able to bring this technology to every household. A major advantage of this technology, is that it expands the amount of information been distributed to the consumers. The majority of customer's dependent on broadcasting network have significantly shifted the paradigm towards IPTV technology. Despite being a relatively new technology, IPTV has been embraced and

accepted by a wide range of customers.

The market of IPTV is already quite saturated in the United States and Western Europe as compared to the rest of the world. Western Europe holds the highest number of IPTV subscribers at around 31% followed by 22% by the North America. The Next big market is in India and China which have a combined market share of 20%. Although the percentage may seem small, but these markets have high growth potential compared to the West. The Asia-Pacific region also holds a satisfactory 12% of the market share followed by Latin America at 5%. The rest of the world contributes to around 3% of the total market.

IPTV has now been further divided into three distinct offerings that are been made to the customers; computer based IPTV, Set-top-box IPTV and game console IPTV are some of them. The current IPTV subscribers currently stands at 104 million and is expected to grow in the near future. Although Western Europe and North America have the largest IPTV consumer base, the market is quite competitive and the pricing is also quite stiff. The amount of consumers in Asia has also risen sharply and the growth is expected to continue in the near future. This explosive growth is mainly attributable to the increasing presence of broadband in these high growth nations.

Increasingly advertisers are also aiming to reap the benefits of this new technology. IPTV allows advertisers to aim their ads at a specific group of customers. This not only reduces costs but also allows the ads to have a greater impact on the target market. The IPTV technology also provides a firm base for carrying out an analytical research of the impact of the advertising. It also has the capability to lay down all the data

demographically, psychographically and ethnographically. Therefore, it is an ideal platform for broadcasters and the content providers who are willing to display their specific content aggregation skills to a specific target segment. The number of consumers is increasing which has made the companies also offer on demand content such as videos. Rise in integrated digital viewing is also taking a major step in this field. People are able to get digital set top boxes and flat screen television. The numbers of households with these PC is getting larger while the costs keep decreasing (O'Driscoll, 2001). Facilities for compression of video content have also revolutionized the sector. The future trends are to have video streaming content due to increase bandwidth capacities.

The IPTV market is quite lucrative and is expected to grow annually by 32% to include and expand approximately 81 million users by the year 2013. The revenue is also expected to increase from \$6.7 billion in 2009 to \$19.9 billion by the year 2013. According to the current forecasts the IPTV markets in the region of North America and Western Europe is expected to generate a major proportion of the total revenue stake. This would mainly be attributable to the lower Average revenue per user (ARPU) which will be contributed by the regions of India and China. However, they also tend to be the largest growth markets in the world. The amount contributed by China and India however are not going to be a major contributor at least until 2013.

#### iv. Companies involved in this area

Some of the industrial players in the fields include the ATSC which an industry regulator, composed of players in the industry in the United States.



It includes the electronic industries, association broadcasters and other players with interest in the sector. Other companies that are involved in this area are the content providers. These are content providers, other companies that provide internet providers; such as hardware vendors, such as internet protocol television and voice on demand services. Examples include Microsoft and IBM. Manufacturers of set top boxes are electronics manufacturers. They make consumer gadgets which helps in the personalizing of viewing of video. Cable networks companies do provide television services to the subscribers (O'Driscoll, 2001).

Some of the companies working to provide the IPTV services are; AirTies, Amazon. com , Broadpeak , BT (BT Vision) , Calix (Occam Networks) , China Unicom , Hybroad (Yuxing) , Hyundai Digital , Irdeto (Convenience) , KT , Latens (See Pace Micro Technology) , Neuf Cegetel (See SFR) , Nokia Siemens Networks (NSN) , Orca Interactive , OTE , Pace Micro Technology (2Wire, Latens) , Panasonic , SecureMedia (See Motorola) , SFR (Neuf Cegetel) , Softbank Yahoo ,- Telstra , Trk Telecom , UTStarcom , VUDU, Inc., Widevine (See Google) , YouTube , Yuxing (See Hybroad) and ZTE.

Apart from the aforementioned companies there are a lot of 120 IPTV vendors spanned across 24 sub-sectors which forms part of the global IPTV market place in 4 different geographical regions. These vendors further transfer work to the 920 IPTV service providers across the globe. These providers relay the services to the homes and offices of individuals and business organizations. Some large IPTV providers have also sought to team up with the Telco companies to create a superior IPTV environment across the globe.

#### v. Regulatory issues surrounding the area

In every field where there are products and services, there is need to have level playing field such that the fair competition and prices are promoted. Also, the regulations are aimed at making sure that the consumer clearly understands the services offered. Organisation such as Digital Subscriber Line forum has been active setting guidelines for good network development so that consumers can receive quality services. Other companies offer compression services to content such as moving pictures and audio. They ensure development in coding and processing of this content is done in the right manner. This is called a consortium group of Moving Pictures Experts Group.

Other regulators include the European Telecommunications Standards Institute which is in charge of standards for wireless networks. It ensures that specifications for home and security networks are adhered to by all stakeholders. State agencies have also been active in regulation of the industry. For example in China where the technology has emerged rapidly, State body that is charged with the mandate of supervising the players is called the State administration of Radio, Film and Television. It controls the development and installation of Internet television technologies in the country. Service providers in the telecommunications industry have formed their own standard body which ensures that the quality work is adhered to in this sector. This is referred to as the “ The Alliance for Telecommunications industry Standard” (O’Driscoll, 2001).

The FCC is a major regulator of the various phone companies, cable operators and broadcasters and lays down the essential criteria of

maintaining each of them. IPTV does not have any hard and fast definition, but it includes a wide range of services provided under this niche. This often includes the delivery of TV programs, movies and data over an internet protocol and in the form of IP packets.

The regulations imposed on the IPTV and the varying service is not fixed and mainly varies according to the type of the services involved. For instance, recently various representatives of the telephone company testified that the IP (Internet Protocol) videos delivered over the internet are not a type of IPTV service and hence it should not be regulated by the same set of laws.

Apart from this, although there are no real differences between VOIP services and the IPTV services; the regulations and laws related to them are quite different. This means that the one having a lower sanction imposed on it will benefit and will be able to attract a wider customer base compared to the service which has a higher and stricter set of regulations. More lenient laws mean that the service has an increased ability to attract more customers.

The severity of the laws regulating the IPTV technology may vary according to the country and the market in question. The social restrictions may also play a role in dictating the freedom with which the IPTV broadcasting services can be used to relay programs to the viewers.

#### vi. Global implications for internet protocol television

In this technologically advanced time; it has become increasingly important to provide customers with superior performance in the form of IPTV and other bundled services. It has given a whole new meaning to how businesses operate and provide entertainment to the customers. It has already seen a

significant amount of acceptance in Western Europe and North America.

India and China are also potential large markets booming with growth potential. Apart from this Africa and the Middle East has also seen wider and successful implementation of this service.

Currently UAE and Qatar have the highest concentration of households that have an existing broadband connection present in their homes at 60. 26% and 40. 23% respectively. Although China and India have a booming market, their contributions towards the worldwide revenue from IPTV technology is less due to the minimal amounts of revenues charged by the operators there. As a result of this providers in North America and Western Europe still contribute a major proportion of the revenue.

Although, IPTV technology has significant benefits in terms of price and the services provided to viewers in contrast to the traditional methods; its acceptance is still restricted by the regulations, costs and often the social mindset of the market in question. The IPTV operators may need to undertake wider marketing efforts with the aim to increase their profits and tap onto markets with high growth potential. The scope of IPTV has not yet been fully utilised by the operators and the scope may be more prominent in the near future.

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