

Evaluating the Disruptive Potential of Internet TV in Western Europe

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1 Abstract

Internet TV offerings are becoming increasingly comprehensive. Initial uptake suggests consumer receptivity to these services is growing. While some players are striving to understand how best to tap into opportunities afforded by Internet TV, others are grappling with how to mitigate the perceived threat to their own services. Capgemini's TME Strategy Lab believes that content producers—through a collaborative offering—can offer a compelling Internet TV service directly on consumers' TV sets. We believe that there is a business case for providing Internet TV services, if key service delivery issues surrounding access bandwidth limitations, delivery architectures and limited availability of devices can be overcome in the medium-term. Indeed, we estimated that an Internet TV offering launched jointly by content producers in the UK, for example, could garner a customer base of around one and a half million households, commanding annual revenues of over €200 million and delivering a profit margin of up to 17% by its fifth year of operation. Content producers, established Pay TV operators and IPTV players must work quickly to map out clear strategies to accrue maximum benefits from Internet TV. We recommend that content producers work together to ultimately offer set-top-box based Internet TV services. Established Pay TV operators should use Internet TV to both capture a share of Free TV markets and complement their own services, while telcos should work to develop wholesale propositions around managed video delivery services and leverage Internet TV to extend their IPTV reach.

2 Introduction

The Internet is fast-emerging as a new platform for consuming TV content. In addition to the plethora of user-generated content already available, recent initiatives by content producers and online players have enabled consumers to view full-length, professionally produced TV content delivered over the open Internet to their PCs via their web browser or through dedicated applications such as the BBC's iPlayer. In addition, players such as Apple are enabling customers to view Internet-delivered TV on their TV sets through set-top boxes and devices which stream and download TV content.

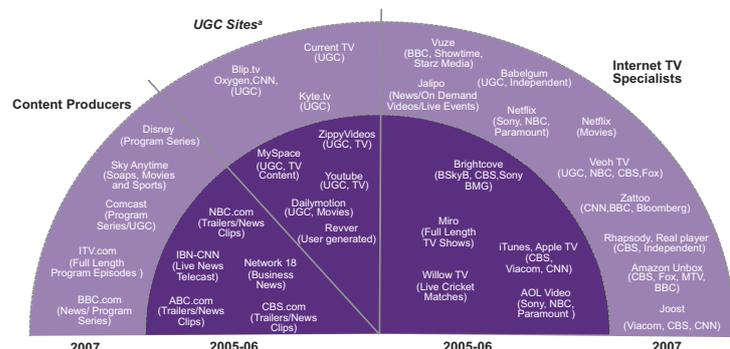
While uptake of Internet TV to date has been predominately limited to early adopters, content producers commanding reach and offering valued premium content have the potential to disrupt the established Pay TV market by collaborating together to jointly offer Internet TV services direct to consumers' TV sets.

In this paper, Capgemini's TME Strategy Lab assesses the likely impact of Internet TV on the Pay TV and IPTV market. We first discuss the key barriers impeding consumer uptake of Internet TV services, and assess when they are likely to be overcome. Next, we question the validity of the business case for content producers offering Internet TV services, and finish by outlining a set of pragmatic recommendations for content producers, established Pay TV operators and telcos.

2.1 Players are Launching Increasingly Comprehensive Internet TV Services

Internet TV has seen significant activity from both online players as well as content producers. In recent years, a host of "Internet TV specialists" such as Babelgum, Joost and Vuze have launched platforms offering niche and mainstream TV content on the Internet. In addition, content producers such as Disney, Comcast and Sky who own premium valued content have also started offering Internet TV services (see Figure 1).

Figure 1: Selected Launches of Internet TV Services, Worldwide, 2005-2007



Note: IPTV is the delivery of video content using closed network infrastructure while Internet TV is the delivery of video content over an open Internet
 Source: TME Strategy Lab Analysis; Company Websites. Note: (a) Due to the fundamentally different nature of the content involved, User-Generated-Content (UGC) sites have not been addressed in this study

Not only are an increasing number of Internet TV services being launched, the content now available online is also of greater appeal to viewers. Most Internet TV specialists began by only offering niche content; however, they are increasingly offering mainstream content on their online TV platforms. AOL Video, for

“Internet TV players are increasingly offering mainstream content”

example, struck content distribution deals with Disney and ABC to stream full-length premium shows the day after their telecast on broadcast TV. Content producers who initially offered only short video clips have also begun offering full-length premium content. In 2007, for example, CBS began offering full-length episodes from premium shows such as *Desperate Housewives* and *the Apprentice* on its Internet TV service.

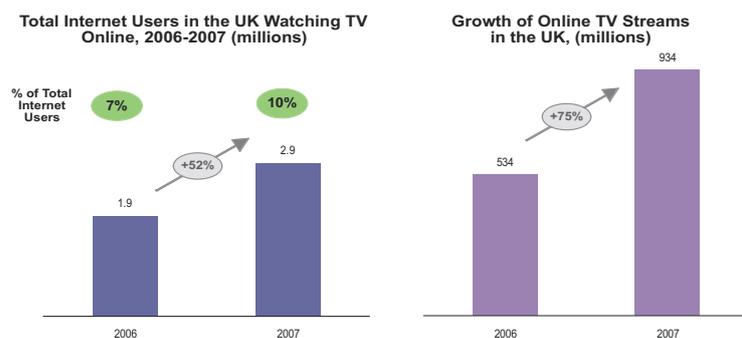
A number of content producers have also begun collaborating to launch shared online platforms to expand the reach of their premium TV content. Hulu, for example, is an online portal jointly developed by NBC Universal and NewsCorp, offering consumers free premium ad-supported content from content producers such as National Geographic, Sony Pictures and MGM.

Recent developments in set-top devices are also enabling the consumption of Internet video on TV sets rather than PC screens. The Apple TV device, for example, links the PC and TV, allowing users to watch downloaded content on their TV sets, while the Babel TV set-top-box and selected Sony Bravia TVs enable direct streaming of content from the Internet to TV sets.

2.2 Initial Consumer Uptake of Internet TV Services has been Encouraging

The increasing array of Internet TV services along with the growing range of premium content is driving both significant uptake and usage of Internet TV. In the UK, between 2006 and 2007, the number of Internet users watching TV online increased by over 50% to nearly 3 million users (see Figure 2). During the same period, the number of online TV streams¹ watched grew even more strongly by 75%, suggesting viewers are also becoming heavy users. Similarly, in the US, 43% of viewers reported to have watched TV online in 2007, up from 25% in 2006².

Figure 2: Uptake and Adoption of Internet TV Services, UK, 2006-2007



Source: Capgemini TME Strategy Lab Analysis. Continental Research "Internet & Convergence Report", Autumn 2007; Screen Digest, "Online TV: prospects for the UK market", October 2007

Some players in particular have seen strong uptake of their Internet TV services. Online players such as AOL Video, for example, which launched in mid-2006 and offers content from NBC, Fox and ABC receives around 19 million visitors per month. Similarly, Vuze which launched in early 2007 and has content partnerships with the likes of National Geographic and the BBC has an installed base of over 10 million users³ for its software application. Certain content producers have also seen notable successes. Disney registered 200 million streams in August 2007 from its video service which was re-launched in early 2007 with enhanced content.

¹ Note: An online TV stream is a continuous flow of multimedia content delivered in real-time to the end user. It is not permanently stored on the PC.

² Source: FiercelPTV, "US Internet TV usage surges", Feb 2008.

³ Source: Business Wire, "Vuze Passes an Installed Base Milestone of 10 Million Viewers and Opens Its Internet Publishing Platform to Networks, Studios, and Content Creators", October 2007.

3 The Disruptive Potential of Internet TV

While there have been a number of promising recent developments in the Internet TV services space as well as encouraging initial uptake from early-adopters, Internet TV services will only become mainstream once companies are able to deliver high quality services to viewers' TV sets as opposed to the predominately PC-based services available today. In a survey in the US, respondents overwhelmingly favored TV sets for watching Internet TV. Over 80% of respondents aged above 35 years prefer to watch Internet TV on a TV set, while 60% aged between 18-24 years prefer a TV set for watching Internet TV⁴.

However, Internet TV providers face several challenges in the delivery of TV services to the living room. These include access bandwidth constraints, challenges around the suitability of delivery architectures, as well as issues around the basic feature set of Internet TV devices. In addition to these service delivery challenges, content producers wishing to offer Internet TV services also need to examine the business economics to ensure there is a compelling case for offering Internet TV directly to consumers' TV sets.

Only once players have addressed these key questions will Internet TV be capable of increasing its penetration and impact video on demand revenues of the established Pay TV and IPTV market. In the rest of this section, we assess when these key service delivery issues are likely to be overcome, and as an illustration, quantify the potential uptake and revenue evolution of an Internet TV offering launched jointly by content producers in the UK over a five year period.

3.1 Service Delivery Challenges are Expected to be Resolved in Medium Term

3.1.1 Sufficient Access Bandwidth is Expected to Become Available

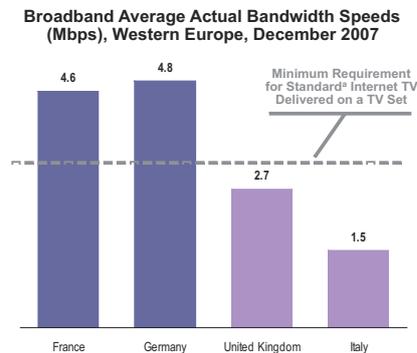
After taking contention ratios⁵ into account, access speeds currently available in Western Europe are barely sufficient to deliver standard broadcast-quality TV content on a TV set, let alone HDTV. In Italy, for example, average actual broadband speeds fall significantly short of the 3 Mbps requirement for Internet TV delivered on a TV set (see Figure 3). Moreover, contention ratios in some geographies such as the UK are as high as 50:1, resulting in a wide gap between actual available broadband access speeds and the maximum possible speeds. Over 60% of broadband users, for example, have experienced speeds less than half those advertised⁶.

Moreover, telcos and ISPs are becoming increasingly concerned about capacity requirements of high-bandwidth applications such as Internet TV. Companies such as Comcast in the US are already implementing "traffic-shaping" measures to prioritize other traffic over peer-to-peer video, while numerous other companies are imposing fair usage limits on customers, thereby discouraging large video downloads. As a result, Internet TV companies may find it difficult to ensure access bandwidth for broadcast-quality TV services.

⁴ Source: eMarketer, "Online Video: Making content pay", August 2007.

⁵ Note: Contention ratio describes the maximum number of users sharing the bandwidth of a broadband connection between the local exchange and broadband provider. With a 50:1 contention ratio, one dedicated access line could be shared by up to 50 users.

⁶ Source: Zdnet, "Watchdog condemns broadband-speed claims", August 2007; BBC, "World Broadband Speeds", December 2007; BBC, "Government cracks broadband whip", December 2007.

Figure 3: Broadband Average Actual Bandwidth Speeds (Mbps), Western Europe, 2007

Source: Capgemini TME Strategy Lab analysis; Zdnet, "Watchdog condemns broadband-speed claims", August 2007; BBC, "World Broadband Speeds", December 2007; BBC, "Government cracks broadband whip", December 2007. Note (a): Standard definition resolution video delivered over Internet and viewed on a TV set

"Content Delivery Network (CDN) is emerging as the preferred delivery technology, as it provides the desired quality of service for streaming video and on-demand services"

We expect bandwidth-related constraints to be resolved as speeds available to the end-user evolve and advanced compression standards reduce bandwidth requirements. Operators in Europe are upgrading access networks to provide speeds upwards of 24 Mbps to a large percentage of households. Operators in France and Belgium are rolling out fiber to the node (FTTN), while in the UK, BT has commenced deployment of fiber to the home (FTTH) in select geographies.⁷ As a result of such initiatives, the average maximum DSL download speed in Western Europe is expected to grow to 15 Mbps by 2010, and 30 Mbps by 2012⁸.

In mature broadband markets such as the UK, for example, initial telco resistance to Internet TV is likely to be resolved in the medium-term. In addition to growing access speeds, it is likely that government regulation will prevent telcos and ISPs from blocking video traffic. Further, content producers will be able to exert considerable pressure against throttling of their Internet TV services, given that telcos must depend on them for content for their IPTV offerings.

3.1.2 Content Delivery Network (CDN) is Emerging as the Architecture of Choice for Delivering Video Content

Internet TV providers will have to choose an optimal distribution architecture for delivering video over the open Internet. Hybrid P2P offers players with a low cost architecture for streaming content; however, it can maintain high quality of services only for an extremely high user base and popular content. Content Delivery Network⁹, on the other hand, is emerging as the most suitable choice, as it provides the desired quality of service for both streaming video and on-demand services (see Figure 4). Internet TV players such as Jump TV and YouTube have built CDN architectures; however, despite its benefits, even CDN falls short of offering linear TV services over the Internet.

3.1.3 Internet TV Devices are Expected to Become Mainstream in the Medium Term

Compared with other Pay TV devices, Internet TV set-top boxes are at an early stage of development and offer only basic features. For example, set-top boxes from Internet TV players such as Vudu do not have features such as surround sound or remote recording which are standard on other Pay TV services such as Sky or Verizon Fios. Moreover, most devices for Internet TV do not have a mechanism to consume broadcast TV and cannot be used as an Internet or WiFi Customer Premise Equipment (CPE).

⁷ The Guardian, "BT bets its future on broadband 20 times faster than now", January 2008.

⁸ Deutsche Bank, "The Digital Content Wave", January 2007.

⁹ Note: Content Delivery Network (CDN) is a video distribution technology which localises content caching with servers deployed at locations closer to the user. Users receive streams from the closest caching server and route optimization techniques are used to ensure quality of service.

Figure 4: Comparison of Delivery Architectures for Various Content Types

	Unicast	Hybrid P2P	CDN
Time Shifting Streaming	Dedicated streams allow users high quality of streaming	High quality of service can be achieved with a large user base	Distributed servers reduce the dependence on central server and support large user base
Download Only	Individual streams for every request offer high download speeds to a small user base	Download speeds are dependent on the number of users sharing the content	Distributed architecture and intelligent traffic management allows CDN to offer faster download to large number of users
Live Streaming	Streaming to a large user base can lead to network congestion and affect viewing experience	Long buffer periods and dependence on single streaming server reduces viewing experience	Lack of active organization of requests by nodes, does not makes streaming ideally suited for CDN network
Scalability	Quality of service deteriorates significantly for a large user base	Quality of service is directly proportional to the size of user base	Quality of service can be maintained for extremely large number of users
Network Deployments	<ul style="list-style-type: none"> Default delivery mechanism for websites with no specific delivery architecture 		

Source: Capgemini TME Strategy Lab analysis. iDATE, "IP Video Distribution", June 2007

Also, many Internet TV user interfaces offer a poor navigation and search user experience as present Electronic Program Guides (EPGs) are not capable of organizing large volumes of content in a user-friendly format. For example, while EPGs on cable and satellite platforms are designed for fewer than 150 channels, Joost and other Internet TV players typically offer over 300 channels categorized by genre. Large Video on Demand (VoD) content libraries also require advanced navigation and search methods. In the US, Comcast's VoD library comprises over 5,000 programs, rendering traditional navigation and search tools ineffectual.

However, advances are being made in set-top box (STB) and EPG functionality. With an increasing number of Internet-enabled devices becoming available, we expect feature-rich set-top boxes to become mainstream by 2011. For example, in 2008 itself, LG is expected to jointly launch Internet-enabled TV sets with Netflix; Babel TV plans to launch a hybrid set-top box combining digital terrestrial TV, PVR functionality, and Internet TV; and British Telecom will begin streaming live content including football matches to Microsoft Xbox console users over broadband.

Similarly, advances are now being made in content search technologies suitable for Internet TV. For example, recently introduced "Auto Hot Key" EPGs automatically classify content by genre allowing easier search and content selection. Also, search algorithms based on analyzing video tags or "metadata" are being developed, which are more suited to searching through large volumes of content.

3.2 Content Producers have a Business Case to Offer Internet TV Profitably

In order to evaluate the disruptive potential of content producers jointly offering an Internet TV service to TV sets, Capgemini's TME Strategy Lab has quantified the likely business case for such an initiative in the UK market, forecasting consumer uptake, revenues and costs over a five year period.

The most likely scenario would be that the content producer consortium would launch a service utilizing a hybrid set-top box in order to offer customers a bundle of linear broadcast "free TV" channels through a Digital Terrestrial TV tuner in addition to Internet TV and PVR capabilities. Offering free-to-air channels through DTT will allow content providers to deliver linear TV as part of the overall Internet TV package, while partnership with external content producers will ensure availability of a wide range of content on the platform. The Internet TV offering can encapsulate free streamed catch-up content in addition to pay-per-view on-demand content such as movies and premium TV show episodes, which are downloaded onto the hard drive of the set-top box. Since Internet TV STBs are relatively expensive, a rental model will lower entry barriers for consumers who are not willing to invest

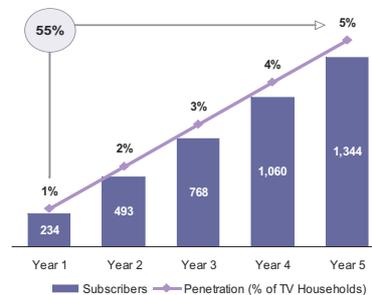
“As Internet TV Set-Top Boxes are relatively expensive, a rental model will lower the entry barriers for consumers who do not wish to pay upfront”

around €150 to €200 upfront in procuring the STB. The smooth functioning of Internet TV will of course depend on the mitigation of a number of the key service delivery challenges already discussed¹⁰

3.2.1 Consumer Uptake is Likely to Grow Strongly Although Penetration will Remain Low

Content producers launching such an offering in the UK are likely to increase Internet TV penetration from a low base of 1% of all TV households in Year 1 to 5% in Year 5, representing over 1.3 million households (see Figure 5). As delivery issues gradually become resolved and on-demand premium content becomes available at lower costs, we expect uptake to increase rapidly, with annual subscriber growth rates of up to 55% between Year 1 and Year 5.

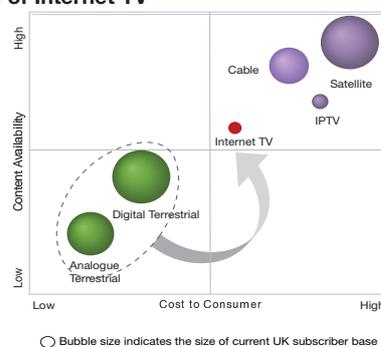
Figure 5: Forecasted Penetration and Subscriber Base of STB-Based Joint Content Producer Internet TV Offering, UK



Source: Capgemini TME Strategy Lab analysis

Existing free-TV households will form the primary target segment for Internet TV services, as it will allow free TV subscribers to upgrade to on-demand content offerings at a minimal incremental cost (see Figure 6). Free TV households will be able to watch premium content at a fraction of Pay TV subscription fees, since ad revenues will subsidize the cost of offering. A small proportion of Pay TV households can take up the service as well, but mainly for the purpose of upgrading secondary TV sets rather than replacing their existing Pay TV subscriptions which have wider premium content offerings at a proportionately higher monthly fee.

Figure 6: Positioning of Internet TV



Source: Capgemini TME Strategy Lab analysis

¹⁰ For the purpose of our business case analysis we have assumed that media players offer the service over the open Internet and that access bandwidths are sufficient for delivering high-quality video content to TV sets. We have assumed the media players uses a CDN-based network architecture which delivers streaming and on-demand video download services, and that the media players will make use of a managed CDN service to eliminate upfront investments in delivery infrastructure.

3.2.2 Internet TV Players can Maintain a Profit Margin of about 17%

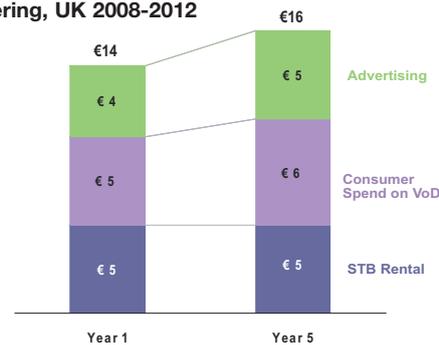
We expect the Internet TV service launched jointly by content producers to generate monthly average revenues per household of around €14 on TV in Year 1, comprising an STB rental charge of €5, and €5 consumer spend on VoD services in addition to €4 from advertising revenues.

As video advertising matures, content companies can generate advertising revenues by inserting two 30 second advertisements, for example, one in the beginning and another in the middle of the video. An average household consuming about 20 TV episodes or 30-minute videos per month can generate up to €4 per month per household in advertising revenues at current CPM levels. Although usage will grow rapidly, this figure might grow only by €1 as CPMs are expected to fall rapidly with increases in ad-inventories.

Content companies can also look at garnering a share of the current average household spend of around €11 per month per household on videos, whether DVD purchase, rental or pay-per-view video. As the content company adds an extensive catalogue of on-demand content to the Internet TV platform, it can expect to make up to €6 per household through paid on-demand content (see Figure 7).

“Free TV households will form the primary target segment for Internet TV services, as it will allow upgrade to on-demand content offerings at a minimal incremental cost”

Figure 7: Monthly ARPU Evolution (€/month) for STB-Based Joint Content Producer Internet TV Offering, UK 2008-2012



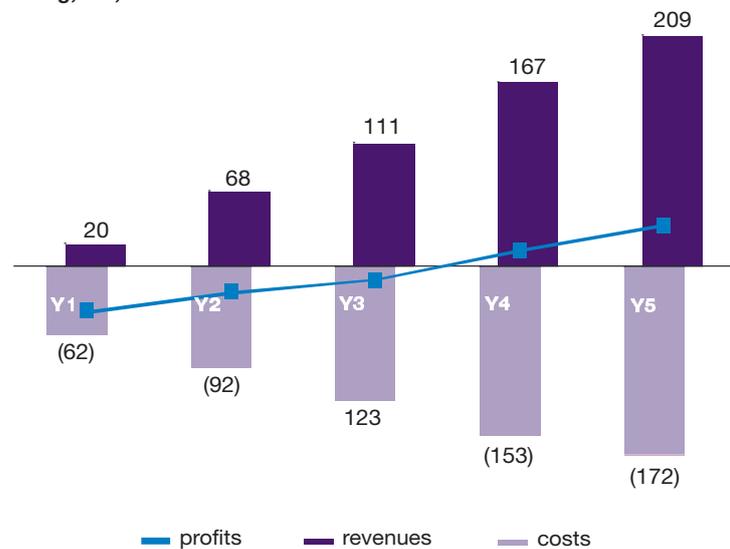
Source: Capgemini TME Strategy Lab analysis

Finally, it will be important for content companies to offer the STB on a rental model to lower the entry cost of the service for consumers who may find upfront cost of €150 to €200 for STBs prohibitive. We have modeled our case considering the price point at the lower end that a player could possibly charge for the set-top-box, at around €5 per month for a 24 month contract. Given that a significant quantum of CAPEX is incurred on STB-subsidies, upfront sale of the STB to a section of users can only improve the business case in favour of the content company.

We believe Internet TV is a viable proposition for content producers. Our analysis shows that the service could break-even in the fourth year, delivering a profit margin of 15-18%, and generating revenues of over €200m by year 5 (see Figure 8).

While set-top box costs are likely to account for nearly three quarters of all costs in the first year due to high current prices of Internet-enabled STBs, it is likely these costs will recede by as much as half over the next three to four years. As the service would leverage an outsourced video delivery service from a CDN provider, CAPEX investments other than STBs are also likely to be minimal.

OPEX on the other hand is likely to grow substantially over time as user uptake grows. In order to encourage greater usage and uptake, content producers will have to offer an increasingly wide variety of content to consumers. We expect companies will need to add more and more content from external sources, until almost

Figure 8: Break-Even Analysis for STB-Based Joint Content Producer Internet TV Offering, UK, in € Millions

half of all content consumed is non-proprietary by Year 5, driving up content acquisition costs from around a quarter to nearly half of all OPEX. Despite these growing content acquisition costs, steadily falling CDN prices, due to growing competition, are likely to help mitigate the impact and achieve earlier profitability.

3.2.3 Internet TV is Likely to Disrupt Pay TV and IPTV On-Demand Revenues

In the medium-term, we believe Internet TV will heavily impact Pay TV and IPTV on-demand revenues. In the case of established Pay TV operators, consumers are likely to be attracted by the relatively cheaper, ad-subsidized on-demand offerings available through Internet TV services. IPTV players' prospects are also likely to be under threat, especially given that many telcos in Europe are positioning VoD as the key selling point of their IPTV services and relying on it to make IPTV offerings profitable.

To a lesser degree, we also believe that as video ad targeting capabilities mature, Internet TV is likely to accelerate the ongoing migration of ad-spend from traditional TV to online channels. However, while on-demand and advertising revenues will be impacted, we do not believe that the core Pay TV subscription revenues will be impacted to any significant degree. Internet TV offers a fundamentally different proposition to Pay TV, and in the medium-term, is unlikely to displace consumers who are willing to pay a premium subscription fee in order to avail a wide range of linear and on-demand content.

In summary, at the current pace of development, key Internet TV service delivery challenges will be largely overcome in the next three years. The reduction of these service delivery issues will enable the growth of Internet TV services, and although we do not expect the service to rival mainstream Pay TV platforms, we do expect strong subscriber and revenue growth over the next five years. As a result, in three to four years, Internet TV is likely to have a strong effect on existing on-demand revenues, and also content producer and broadcaster advertising revenues to a lesser degree.

4 Recommendations

“We believe that there is a business case for content producers to offer Internet TV directly to consumers”

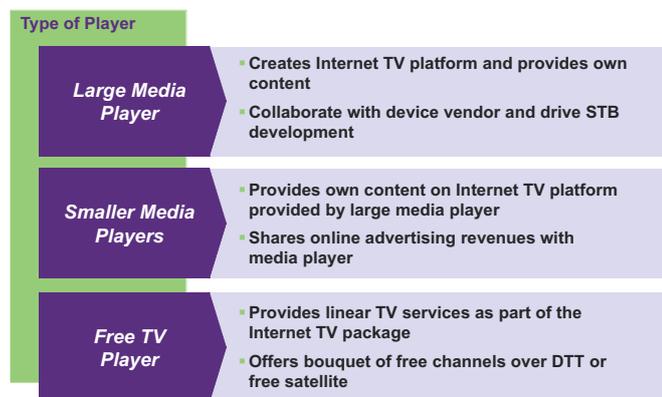
Amidst rapidly developing services and encouraging initial consumer uptake, many players are considering how best to tap into the opportunities afforded by Internet TV, while others are grappling with how to mitigate the perceived threat to their services. In the rest of this section, we outline some key recommendations for content producers, established Pay TV operators, and also telcos.

4.1 Content Producers Should Collaborate to Offer Compelling Internet TV Services

We recommend content producers should consider collaborating with each other to provide joint Internet TV services, offering customers a rich variety of popular content across genres.

Leading content producers should pioneer the creation of an Internet TV platform, provide valued content and drive STB development in collaboration with partners. Smaller players should leverage the platform created by leading media players and add value by providing popular content. The consortium should partner with a Free TV player to provide the DTT or free satellite platform for delivering linear TV services (see Figure 9).

Figure 9: Potential Roles in a Content Producer Internet TV Consortium



Source: Capgemini TME Strategy Lab analysis

Offering Internet TV services will enable content producers to foster new revenue streams in the form of advertising, on-demand and subscription revenues. No longer solely dependent upon broadcasters to telecast their shows, content producers will be able to use on-demand services to monetize their catalog further by serving niche markets more comprehensively and extending the shelf-life of content; as an example, programs outside the top fifty account for over 50% of all downloads on the BBC iPlayer.¹¹ Direct reach to consumer homes through the Internet TV platform will allow content producers to assert greater control over the value chain as well as explore the viewing behaviors of consumers, potentially channeling this insight into the creation of new content.

We believe content producers should chart a clear roadmap to offer STB-based Internet TV services, beginning with online video services in the immediate-term where users can stream videos through their website, in order to tap the online advertising opportunity. In the short- to medium-term, players could then offer Internet TV to the living room through a STB. Initially, because of low customer

¹¹ Guardian, “BBC iPlayer bursts through user target”, Jan 2008.

“Cable and satellite players can leverage Internet TV to expand their reach, especially in geographies with low Pay TV penetration”

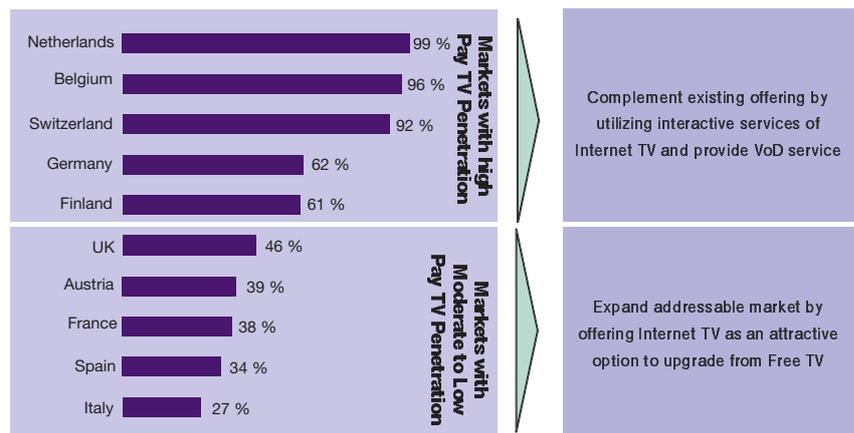
awareness and familiarity for this service, players will have to themselves provision STBs dedicated for the Internet TV services. As customer acceptance for the service increases, in the longer-term, players can envisage a fully open Internet TV offering where users are free to choose their own CPE, whether a STB, Internet-enabled TV set or gaming console.

Crucial to their success will be content producers’ abilities to also forge successful alliances with other value chain players to gain capabilities where they lack experience. In particular, content producers will need to partner to gain advertising expertise in embedding ads in video content and selling ad spots. In order to broaden the appeal of Internet TV, content producers will also need to partner with STB manufacturers and leverage their expertise to create feature-rich and low cost devices.

4.2 Pay TV Operators Should use Internet TV to Complement their Services and Extend Reach

We recommend cable and satellite players to consider leveraging Internet TV to complement their existing services and address market segments not covered by their existing offerings (see Figure 10). Offering web-based TV and subsequently integrating Internet TV capabilities into their STBs, will allow satellite operators to offer premium on-demand services, catch-up TV and video downloads.

Figure 10: Recommended Strategy for Pay TV Operators



Source: Capgemini TME Strategy Lab analysis

Cable and satellite players can leverage Internet TV to expand their reach in geographies with low Pay TV penetration. Countries with high Free TV penetration, such as Italy, where nearly three quarters of households take Free TV services, and Spain, France and Austria, where free-TV penetration is over 60%¹², offer large addressable markets for Internet TV offerings. By offering low-cost/high-value Internet TV propositions, Pay TV operators can target expansive customer groups who have an appetite for premium content and yet do not want a significant monthly spend.

¹² Source: Ofcom, “International Communications Market 2007”, December 2007.

4.3 Telcos Should Develop Wholesale and Retail Propositions around Internet TV

Telcos should view Internet TV as an opportunity to develop propositions around managed video delivery services. AT&T, for example, is developing a managed CDN offering for delivery of multimedia content to consumers over the Internet. Telcos should also consider propositions around broadband access. Qwest in the US plans to sell higher capacity broadband with speeds of up to 38 Mbps at a premium to consumers wanting to access Internet-based TV and HDTV services.

Moreover, with IPTV likely to have limited uptake in most geographies, telcos could view Internet TV as a means to reach an extended consumer base. Telcos should consider partnering with free-view channels to offer free content and position Internet TV services as a basic/entry level service to target consumers who are not ready to pay a premium for fully-fledged IPTV offerings. By offering IPTV as a premium service, whilst exploiting targeted advertising and interactive capability of the internet, telcos can build new revenue streams and maximize overall revenues. By analyzing the genre interest of viewers, telcos can display ads relevant to users' interest area and realize higher CPMs.

In conclusion, Internet TV offerings are developing rapidly and seeing encouraging uptake. As service delivery issues gradually become resolved, we expect Internet TV on the TV set to become widely available in the next two to three years. Content producers, Pay TV operators and telcos should work to rapidly chalk out clear Internet TV strategies to complement their existing offerings and generate additional revenue streams. Content producers should collaborate to launch compelling Internet TV services, affording opportunities to reach the customer directly and tap into the online advertising market. While Pay TV operator on-demand revenues are likely to be disrupted by Internet TV, their subscription revenues are likely to remain unaffected in the short-term. Internet TV will also afford Pay TV operators the opportunity to widen their reach by tapping markets previously left unaddressed. The impact of Internet TV is likely to be most prominent on telcos as their precious on-demand revenue streams become affected, especially as many are positioning on-demand as the main selling point of their IPTV services; however, we believe that telcos can turn Internet TV to their advantage by not being defensive and taking advantage of emerging opportunities.

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About the TME Strategy Lab

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- Research points of views on emerging industry trends: The Lab develops in-depth strategic research reports on emerging industry issues that are relatively under-explored, but have significant implications for players. The Lab conducts these studies independently or in collaboration with external partners.
- Monitoring key developments in the telecom and media market: The Lab closely monitors key developments relating to selected industry topical issues. This research is updated quarterly and generates data and insight-rich reports on the selected industry topics.
- Bespoke research and analysis: The Lab delivers highly value-added strategic research and analysis projects to clients addressing crucial issues relating to their business.

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About Capgemini and the Collaborative Business Experience®

Capgemini, one of the world's foremost providers of consulting, technology and outsourcing services, enables its clients to transform and perform through technologies.

Capgemini provides its clients with insights and capabilities that boost their freedom to achieve superior results through a unique way of working - the Collaborative Business Experience® -

and through a global delivery model called Rightshore®, which aims to offer the right resources in the right location at competitive cost. Present in 36 countries, Capgemini reported 2007 global revenues of EUR 8.7 billion and employs over 83,000 people worldwide.

More information about our services, offices and research is available at www.capgemini.com/tme

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