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article:

the economics of internet TV: new niches vs mass audiences

David Waterman

There are all sorts of reasons why broadband internet should be the ideal vehicle for entertainment programming. Delivery is efficient, it is more interactive, has fewer capacity constraints and no geographic limits. Advertising and sponsorship can be tightly targeted, services more efficiently priced and bundled. Yet Internet TV cannot rewrite the economic rulebook, and will be under great pressure to syndicate entertainment to and from other media. So are we witnessing the emergence of a vital new creative platform, or just another link in the showbiz food chain?

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With the AOL Time Warner merger in the USA, attention has focused recently on the economics of delivering broadband entertainment content over cable. Less well publicised have been the extraordinary number of trials conducted into delivering broadband content over the internet. Much of that content has been internet-original, notably short films and serials, and interactive programme forms. At the other end of the spectrum have been feature films and TV programmes that have previously appeared in cinemas or other media.

The suppliers of this content have experimented with just as wide a range of business models: advertising, sponsorship, bundling with other products, promotion of other products, instant online purchase of merchandise, pay-per-view (PPV) or 'rental', outright sale of content (by consumer downloading), and hybrid forms. There has been a 'Wild West' atmosphere to all these trials, with little consensus on which models are likely to develop commercially.[1]

There have been some high-profile casualties. But few observers would discount the long term possibilities of delivering broadband entertainment in this way. Several big questions spring immediately to mind. What business models will be most successful and how will file-sharing technologies affect them? And will Internet TV mean a wealth of new niches, or just more of the same?

Of course, no one can answer these questions with any certainty. Indeed, arriving at the answers is the point of all the experimentation in the first place. My objective is much more modest. By applying some economic principles, and considering the historical experience with established broadband media, I hope to provide a useful framework for productive thinking about the future of Internet TV.

Nature of the beast

First, let us set our terms of reference. Internet TV is here defined as TV delivered by the Internet Protocol (IP), and thus excludes any form of 'enhanced television' such as using the computer (or a set top box) to interactively play along with a standard television transmission. We will also concentrate mainly on dramatic entertainment forms for consumers. There are many business-to-business (B2B) broadband applications (such as videoconferencing), interactive computer games and gambling, pornography and news programming – all of which have great economic potential on the internet, but which lie outside our scope.

We are also looking at the long term. Internet bandwidth capacity, as well as payment mechanisms and computer user interfaces, will have to develop far more before Internet TV achieves its potential. But it is reasonable to assume that the computer and the television set will sooner or later converge. The basis of this assumption is my faith that once Internet TV entertainment technology becomes profitable, computers will migrate to the living room. Take-up of hard disk or Personal Video Recording (PVR) systems in the USA may be paving the way for this reconfiguration (with apologies for my cultural limitations, this paper focuses almost entirely on developments in the USA).

1. See for example, the roundtable discussion in 'Is it theft, or is it freedom? Seven views of the Web's impact on culture clashes', *New York Times*, 20 September 2000, p 42.

Research round-up

There is little academic literature that addresses such a new subject as broadband entertainment on the internet or the business models that underlie it. Several books and articles, however, provide a basis for the present study.

Bruce Owen,[2] for instance, takes a basically pessimistic view of the future of Internet TV, arguing that adequate bandwidth is not only a long way off, but that the architecture of the Web is not well suited to broadcasting video. More recent papers in the communications literature have been concerned with Internet TV. Kiernan and Levy[3] study the content of broadcast-related websites, for example, while a series of articles on the future of the internet, notably Shaner's,[4] conceptualize Web content at a broader level.

Of more direct relevance to the present analysis, Picard[5] offers a study of the historical development of business models for online content providers, and suggests lessons in these experiences for the future. Konert[6] analyses a variety of financial and revenue-generation models for internet broadcasting from a European perspective, and the implications for European public broadcasting. Shapiro and Varian[7] discuss the economic characteristics of digital and networking technologies, including the internet, from the standpoint of advising business people how to take profitable advantage of them.

Bakos and Brynjolfsson[8] study the economics of product-bundling strategies on data networks. A recent National Research Council report, *The Digital Dilemma*,[9] discusses in detail the economics and technology of the internet from the standpoint of copyright and other government policy questions. A number of law review and other policy-oriented papers, such as Samuelson,[10] Schlachter,[11] Einhorn[12] and Jackson[13] also discuss the economic and technological characteristics of internet delivery.

Early experiments

A number of commercial websites have launched Internet TV entertainment in the past year or two, exhibiting a wide variety of business models and content. On the content side, film shorts and serials, or 'webisodes' (also mostly very short) have been very common fare at sites such as *entertaindom.com*, *mediatrip.com*, *atomfilms.com* and *shockwave.com*.[14] Many of these programmes have been originally produced for the internet. The great majority of serials seem to be animated, although there are also talk shows (eg *Cyberlove* on *thesync.com*).

Some sites, such as *sightsound.com*, and the file-sharing site, *scour.com*, have offered full-length features. Most have been theatrical films, although one internet original feature distributed by *sightsound.com* in 2000, *The Quantum Project*, has received a lot of publicity. One now-defunct site, *itsyourmovie.com*, offered an original serial programme in which viewers could vote on the future plot direction. Many broadcast TV stations now stream their programming from websites, and *broadcast.com* retransmits television

2. Bruce M. Owen, *The Internet Challenge to Television*, Harvard University Press, Cambridge, MA, 1999.
3. V. Kiernan and M. Levy, 'Competition among broadcast-related websites', *Journal of Broadcasting and Electronic Media*, Vol 43, No 2, 1999, pp 271–279.
4. S. Shaner, 'Relational flow and the World Wide Web: conceptualizing the future of web content', *Electronic Journal of Communication*, Vol 8, No 2, 1998.
5. R. Picard, 'Changing business models of online content providers', *International Journal of Media Management*, Vol 2, No 2, 1999, pp 60–68.

stations worldwide. Many sites, such as *CBS.com* and *NBCi.com*, offer a wide variety of short video news clips, previous episodes of entertainment series programmes, and – of particular interest – outtakes or other original clips to supplement regular TV series (eg CBS's *Survivor*). Movie and TV show previews or other promotional videos for entertainment programmes are common fare at entertainment websites.

The variety of business models employed by these internet broadband sites has been great. Banner advertising, other links to retail outlets, and on-site merchandising are common components. Brief in-show commercials have appeared before some webisodes. Instant online purchase of products modelled within an entertainment programme was apparently pioneered by Microsoft. Internet TV promos of programming available on other media, especially broadcast or cable programmes and movies, are common. Among the most substantial websites that has pioneered a direct payment model is *sightsound.com*. By early 2001, buyers could either 'rent' (obtain a one- or two-day licence) or 'buy' (ie download) recent and older theatrical features, typically for $2.95 or $14.95 respectively. Sightsound.com also sells videos and DVDs by mail, and bundles screenings of *The Quantum Project* with a free download of the Media Player program.

Entertainment in the digital economy

The idea that the internet is a revolutionary communications medium has become common currency in discourse about the media. Certainly, this label is justified in many contexts. From the perspective of this paper, though, the internet is best viewed in terms of the *improvements* it can make to the cost and efficiency features of established broadband media. I divide these economic improvements into five categories:

- lower delivery costs and reduced capacity constraints;
- more efficient interactivity;
- more efficient advertising and sponsorship;
- more efficient direct pricing and bundling; and
- lower costs of copying and sharing.

Lower delivery costs and reduced capacity constraints

Media transmission system costs comprise several components: a capital infrastructure for transmission, home premises equipment, and variable costs for delivering the information. Parts of these infrastructures and home equipment have multiple uses, and costs often depend critically on usage rates. This makes cost comparisons across different media difficult.

Some comparisons show that internet transmission of television signals is currently far more expensive than cable and some other media.[15] As internet broadband capacity develops, however, internet TV transmission will certainly become cheaper. Internet TV is also free of geographic

6. B. Konert, 'Broadcasting via the internet: new models of business and financing', *Trends in Communication*, No 7, Boom Publishers, Amsterdam, The Netherlands, 2000.
7. C. Shapiro and H. Varian, *Information Rules*, Harvard Business School Press, Cambridge, MA, 1999.
8. Y. Bakos and E. Brynjolfsson, 'Bundling information goods: pricing, profits and efficiency', *Management Science*, Vol 45, No 12, December 1999, pp 1613–30.
9. *The Digital Dilemma: Intellectual Property in the Information Age*, Computer Science and Telecommunications Board, National Research Council, National Academy Press, Washington, DC, 2000.
10. P. Samuelson, 'Intellectual property and the digital economy', *Berkeley Technology Law Journal*, No 14, 1999.
11. E. Schlachter, 'The intellectual renaissance in cyberspace: why copyright law could be unimportant on the internet', *Berkeley Technology Law Journal*, Vol 12, No 1, 1999.
12. M. Einhorn, 'Napster, copyright and markets', paper presented at the Telecommunications Policy Research Conference, 23–25 September 2000, Alexandria, VA.

constraints, allowing instantaneous worldwide transmission. A major factor in reducing delivery costs is the ability of consumers simply to download content instead of copying in real time from a cable channel, for example, or taking a trip to the video store to buy a product that has been manufactured, packaged, shipped and held in stock. From the latter perspective at least, internet transmission is quickly becoming more cost-efficient than existing media.

Because of its architecture, capacity or 'carriage' constraints become very minor on the internet. In the 1940s, increasing the number of available movies in a town meant building a whole new theatre. Broadcast TV stations reduced these capacity costs, especially in larger markets. Cable TV and DBS have further reduced capacity constraints, and these costs continue to fall with digital compression technologies. Video stores have essentially the highest 'capacity' of any established broadband media.

All of these media, however, have significant carriage costs. Another channel on a cable system requires a major investment, even with digital compression technologies. Another video or DVD at retail stores requires total demand for a few thousand copies to make duplication and physical distribution worthwhile. The stores that carry each title must cover inventory costs for as long as customers wish to rent or buy it. On the internet, a variety of websites can offer a virtually unlimited number of titles, and consumers can readily switch within and between different sites. The implication of these cost and capacity advances is lower prices and, in particular, greater product variety – one step closer to true video on demand (VoD).

Thinner and more marginal markets can also now be served. That potential is shown by the abundance of internet-original short films and serials already available. Many lend themselves to a medium in which more lengthy viewing or downloading experiences is presently too tedious. Nevertheless, another economic reality underlies their success on Internet TV; consumer demand for short subjects has in the past usually been too marginal for all but a few speciality video stores and the most 'narrowcasting' of cable television channels.

Another example of relatively marginal content on the Web is movie or programme outtakes, footage about the making of a programme, interviews with the creative people, etc. Currently, such material is included as extras on some DVDs, but as some websites are already demonstrating, the internet expands these possibilities almost limitlessly. Supplementary material about advertised products can also be provided. Such ancillary video materials are important building blocks for both advertising and direct pricing business models.

More efficient interactivity

If the internet has a jewel in its crown, it is surely two-way interactivity. Interactivity has been physically possible since cable systems offered it in early years, notably on the QUBE system in Columbus, Ohio in the 1970s. A hybrid form of interactivity is also now booming with the integration of computers and standard TV transmissions to create enhanced TV. Viewers with a computer in the same room (or a set top box) can simultaneously play along with game shows – and many do.

Viewers can also buy products shown on standard television commercials more and more easily with the right

13. M. Jackson, 'Using technology to circumvent the law: the DCMA's push to privatize copyright', *Hastings Communications and Entertainment Law Journal* (forthcoming).
14. *atomfilms.com* and *shockwave.com* announced their merger in December 2000.
15. E. Noam, 'Will America be dominant?', presentation at the conference, TV Over the Internet, Columbia University, New York, 10 November 2000; A.M. Noll, 'Internet pricing vs reality', *Communications of the ACM*, Vol 40, No 8, 1997.

home equipment. In some experimental systems, viewers can now choose between several simultaneous feeds of standard broadcast content (such as different camera angles covering a sports event) to control the pictures that they actually view. PVRs also permit asynchronous control of programming starts and stops.

Cable, DBS and other multi-channel systems are rapidly developing interactive technology as well. But the development of Internet TV should permit most of these activities to be conducted more efficiently. Viewers can instantly and easily control a much wider variety of programming content via their responses. Home shoppers can simply click on a product shown in the middle of a televised movie to instantly buy it, or to get more information about it. They can do the same with an in-show TV commercial. More efficient interactivity offers another ingredient of true VoD systems as well: a convenient process of ordering movies or other programmes for on-screen viewing or download.

With internet technology, viewers can also neatly manipulate the sequencing of video images they see. Many question whether consumers will (apart from the case of pornography) ever want to manipulate the narrative form of entertainment programmes, but a great amount of innovation is being invested in systems that will allow them to do that if they want.

More efficient advertising and sponsorship

Because of muddy segmentation (whether by demographics or product interest), accurately targeting television advertising is a perennial problem. Cable and other multi-channel systems have reduced the amount of wastage, but Internet TV presents the chance to further advance this quest.

First, the removal of capacity constraints should allow still sharper segmentation, in the same way that multi-channel systems have improved the broadcast model. Second, the ability of advertisers to track the buying or internet usage patterns of individual consumers permits different ads to be inserted within (or displayed alongside) the same programme, depending on the viewer's revealed interests or estimated willingness to buy a particular product. The click-through interactive system of internet advertising is much like the 'per-inquiry' (PI) ads often seen on emerging cable TV networks, in which the network is paid not for exposures, but earns a percentage cut of each purchase made via a phone number displayed on-screen. The internet system is simply a more efficient PI system. Finally, the internet offers the opportunity for full sponsorship of a website, or of an area within a site, that attracts consumers with entertainment programming. This sponsoring system might meld the branding of a dramatic format programme and its characters with a consumer product in a more sophisticated way than traditional television programme sponsorship.

Although internet technology thus promises more efficient advertising-based business models to support broadband programming, history suggests formidable practical limits. First, although multi-channel cable television attracted more than $5 billion in total advertising by 1999, including many new advertisers, the 'magazine model' of higher rates for sharper segmentation has not materialized. A few networks, such as MTV, have segmented very successfully, but cable network cost-per-thousand ad rates are on average still about 25% below those of the major broadcast networks, apparently because of the limited national audience reach of networks that rely on multi-channel system delivery.[16]

16. *TV Dimensions*, Media Dynamics, New York, NY, 1999; D. Waterman and Z. Yan, 'Cable advertising and the future of basic cable networking', *Journal of Broadcasting and Electronic Media*, http://www.mediadynamicsinc.com/pub01.htm, Fall 1999.

Second, while in-show commercials can be carried on Internet TV programmes, the internet does not seem to offer many advantages over what virtually ubiquitous broadcast television stations already do with in-show commercials. This is because many products are not subject to impulse purchase or PI models of advertising. Third, as we have seen with VCRs, and are beginning to see with PVRs, digital consumer control technologies like the internet generally increase the ease with which viewers can 'zap' ads or otherwise avoid them.

Overall, the success of advertising in internet broadband entertainment seems to rely heavily on consumer initiative to investigate or make online purchases of advertised products – a model with a patchy record in other media. Furthermore, to the extent that Internet TV evolves into a 'store and replay' rather than 'live' transmission medium, as some believe will happen, advertising's potential will also be limited.[17]

In the past year, analysts' expectations for the potential of internet advertising models have greatly diminished – for the above and perhaps other reasons. Nevertheless, at least some of the potential improvements to advertising efficiency on the internet should still materialize. For at least some products, the result should be more cost-effective advertising and product promotion, and thus an increase in the effectiveness with which advertising and sponsorship can support broadband entertainment content. More sharply focused programmes should accompany these developments.

More efficient direct pricing and product bundling

More efficient direct pricing means lower costs in making transactions, but especially the ability to more effectively price-discriminate – that is, to extract the maximum amount that each consumer is willing to pay for a product. In several respects, internet technology promotes these efficiencies.

First, direct payment-supported VoD systems are likely to be at least as cheap and easy to manage by websites as they ever will be on cable or Direct Broadcast Satellite (DBS). Internet payment systems now in development are expected to make payment as simple and secure as adding charges to a monthly cable bill. 'Micropayments', which allow very small amounts (perhaps only a few cents) to be automatically charged to a user via a credit card or similar means, are also a prospective component of true VoD systems. These are already in use for some internet applications and are reported to be in development for music distribution sites.

Websites can also engage in so-called dynamic pricing, by which consumers are charged different prices according to their perceived willingness to pay, based on prior purchasing habits on the Web, website visiting habits or other information. Basically, dynamic pricing permits more efficient price discrimination, through better identification of high vs low value customers.

An important component of effective direct payment systems is the efficient bundling of products, such as a package of three movies together, monthly subscriptions, or the sale of movies along with talent interviews, outtakes, etc. A large literature in economics has explored the myriad ways in which such packaging can encourage consumers to part with more money.[18] Of course, video stores and cable

17. A. Odlyzko, 'From narrowband to broadband: capacity requirements, architecture options and investment implications for the long distance network', presentation at the conference, TV Over the Internet, Columbia University, New York, 10 November 2000.
18. W. Adams and J. Yellin, 'Commodity bundling and the burden of monopoly', *Quarterly Journal of Economics*, Vol 90, No 3, 1976, pp 475–98; H. Varian, 'Price discrimination', in R. Schmalensee and R. Willig, eds, *Handbook of Industrial Organization*, Elsevier/North Holland, New York, 1989.

or satellite-based systems also offer bundles. But on the internet, tailor-made packages can be offered to different consumers depending on buyer profile data, while interactivity allows more choice among more complex menus or package variations than other media can offer.[19]

A variety of other price discrimination devices, such as reduction of prices over time for movies as they become older, or lower prices for repeat viewings, can also be more efficiently managed on the internet. A plausible method of Internet TV price discrimination may involve consumer segmentation based on demands for different qualities of transmission. Consumers with higher-speed connections, for example, are likely to attach more importance to high technical quality.

As with advertising-based business models, these potential improvements in direct pricing have practical limits. There is a long history of consumer resistance to paying at every turn – witness the failure of DiVX, the digital video disc system promoted by Circuit City in the USA, where consumers paid according to the number of times they watched a programme. More generally, PPV systems have not done well on cable or satellite systems, although it is unclear which factors were responsible: lack of control over starts and stops, limited selections or other reasons. Dynamic pricing may have an uncertain legal future as well. Also, even though the internet allows practically any kind of segmentation to take place in theory, it may also prove difficult to price-discriminate geographically with a medium that is nationally and internationally distributed. Geographic discrimination is a natural process for video stores and cable systems.

Undoubtedly, some potential aspects of direct pricing on Internet TV will never happen. The internet offers such potential in this area, however, that at least some of its advantages, in terms of lower transaction costs and more efficient market segmentation, seem bound to materialize. The result should be more viable VoD systems and greater revenue support for products for which there is relatively high consumer demand.

Lower costs of copying and sharing

Attracting more recent attention than any other attribute of the internet is the remarkable ease with which content – including movies or other videos – can be duplicated and transferred from one consumer to another. The popularity of the *gnutella.com*, *napster.com* and *scour.com* file sharing systems are a vivid testament to these efficiencies. The limited use of video content on these systems thus far is due only to bandwidth constraints. Of course, copying and sharing of movies and other videos has been widely practised since VCRs arrived, along with copy-prone pay-TV movies and prerecorded cassettes that can be duplicated back-to-back. It is simply that computers have made the task of copying and sharing far less time-consuming for the consumer.

As everyone has recognized, computer network technologies for copying and sharing pose a serious threat to copyright holders because paying customers can practically evaporate from the market. Even a single casual file transfer can have devastating cumulative effects as it is retransmitted from user to user virtually without cost.

Less widely discussed are the new opportunities for copyright owners created by efficient duplication and file-sharing via the internet. I have already mentioned the negligible costs of a consumer download – essentially equivalent to copying – compared to purchasing a DVD or videocassette or making

19. Bakos and Brynjolfsson study the economics of offering menus of very large bundles on the internet, *op cit*, Ref 8.

a real-time copy from standard television. With existing PPV or home video systems, consumers who want to share a copied movie with someone else have to physically deliver it to the recipient. Peer-to-peer computer transfer essentially eliminates that cost. Fundamentally, the lower consumer costs of copying and peer-to-peer transfer via the internet create market value. If distributors can manage to appropriate some or all of that market value, their revenues and profits will rise.[20]

Consider the 'old' system in which consumers shared a pre-recorded video, or made real-time back-to-back copies of it to share with others. The copyright owner may be able to appropriate some fraction of the value of the shared copy, but for the most part it is lost revenue. If we assume that distributors are able to maintain strong copyright protection over broadband internet transmissions, they may be able to appropriate all, or at least a larger part, of the value of an electronically shared copy. For example, an automatic electronic payment to the distributor could be activated by the peer-to-peer file transfer of a copyrighted movie (via a *gnutella* or *napster*-like system). If prices for such authorized downloads are low enough, it could remove the incentive for consumers to engage in the cumbersome process of physical copying and sharing.

Internet technology thus increases distributors' potential revenues from movie and other product distribution; revenues that might be further enhanced by improved price discrimination. Those who take advantage of file-sharing probably tend to have lower price demands, so may drop out of the market at the distributor's price for the 'original' movie. If distributors can devise a method of charging lower prices for movies transferred from peer-to-peer file sharing sites, or from other sites that involve greater consumer search costs than distributors' sites, they might also increase revenues.[21]

Of course, it is unrealistic to believe that email or other unpaid peer-to-peer transfer of movies and other broadband entertainment could ever be eliminated, even if these practices were made illegal. Also, internet distribution of movie data stripped from DVDs remains a serious threat. However, watermarking and other copyright protection technologies for authorized internet distribution are rapidly developing. If copyright interests continue to get favourable court interpretations of the 1998 Digital Millennium Copyright Act – such as the prohibition on attempts to defeat encryption – copyright owners may be able to keep losses to a minimum.[22]

The historical experience with back-to-back video copying by consumers encourages that hope. Surveys indicate that consumer sharing of back-to-back video copies accounts for only about 1% of legitimate market transactions, and that the overwhelming proportion of consumers believe that such copying is illegal. This suggests that a relatively small minority would try to defeat encrypted programming even if they could, or make illegal peer-to-peer transfers.[23] Those who do are likely to be low-value consumers, who would be disinclined to pay for the programmes at the prevailing retail prices in any case.

20. S. Besen, 'Private copying, reproduction costs and the supply of intellectual property', *Information Economics and Policy*, Vol 2, No 1, 1991, pp 5–22. Besen makes the unrealistic assumption in his model that the distributor can appropriate all of this value. In fact, the most that the distributor can ordinarily appropriate is the value of the product to the buyer, plus the value that buyer realizes from making and distributing copies. The latter component is likely to be less than the value of the copies to those who receive them. For a useful analysis of home copying issues from an economic perspective, see also M. Katz, *Home Copying and Its Economic Effects: An Approach for Analyzing the Home Copying Survey*, Report to the Office of Technology Assessment, 1989.
21. Essentially, the recent negotiations between *napster.com* and Bertelsmann, for *napster* to price its music services to consumers, have been heading for just such a price discrimination system. According to press reports, a $2.95 to $4.95 monthly subscription price is being discussed for a fixed number of music file transfers on napster. For $5.95 to $9.95, unlimited transfers could be made. Additional charges would be made for the right to record the music onto blank CDs. The technical quality of all these paid subscriber transfers or recordings, however, would only be 'near-CD' quality. Thus, higher-value consumers would be induced to pay progressively more to use the service, but restrictions on transmission quality would still differentiate the higher-value CD and lower-value file-transfer market segments. (See D. Clark, 'Napster to offer yearly fee to CD labels', *Wall Street Journal*, 21 February 2001, p B6). Of course, the well-publicised resistance of other record companies to Bertelsmann's proposals suggests that such a direct pricing system could prove too clumsy to be practical in the current environment or that the record companies might want more direct control.
22. For a concise discussion of the DMCA and its application to the *napster* case see Jackson, *op cit*, Ref 14.
23. The video copying percentage is derived from the Office of Technology Assessment (1989) and Macrovision, Inc. (1996). The Macrovision study also reported that over 95% of survey respondents said they believed back-to-back copying of prerecorded videocassettes is illegal.

In summary, internet technology offers many ways by which programme distributors can not only lower the costs of delivery and improve the desirability of the programming packages they offer to consumers, but also improve the advertising, direct pricing and other components of their business models. Web entrepreneurs are already combining components of those business models in imaginative ways. Undoubtedly, some of these potential improvements will not work out. The law, the advance of technology, and uncertain demand could all inhibit them. But the potential of the internet seems so great in these respects that it is hard to imagine that Internet TV will not – at least eventually – lead to some dramatic improvements in television distribution and the business models that support it.

The implications for business model and content development

Advertiser vs direct pricing support

Internet TV is already disproportionately reliant on advertising and e-commerce-related business models – with nobody yet claiming profits for any model. As bandwidth capacity improves, a shift toward direct-payment models is likely for two reasons. One is that the intense competition among Web distributors to establish themselves in the market during the internet's growth stage has stopped many firms from charging directly. The second reason to expect more direct pricing is that higher bandwidth capacity will mean that products of greater consumer value, namely feature-length movies and sporting events, can be attractively presented.

Other than pornography, consumers have never been willing to pay directly for much audio/visual entertainment besides movies and some sports. Historically, advertising has been used to support content watched by low-value viewers. Although more efficient advertising and e-commerce-related systems are likely to increase the value of internet exposure to advertisers, it seems unlikely that these improvements will overcome the basic economic forces that attract high-value viewers to direct payment systems.

New media – old syndication patterns

As broadband media have proliferated in the past two or three decades, individual programmes are more and more frequently distributed on several different media over a period of time. As countries throughout the world have privatized their media and relaxed trade barriers since the mid-1980s, international markets, especially for US entertainment products, have also expanded.

As Internet TV develops, there will be tremendous economic pressures for the providers of its content to employ similar multimedia syndication models, as well as to supply products that have international appeal. In brief, higher revenues will be generated, because higher potential audiences will be reached – and more efficiently segmented. The result is greater potential revenues, which will support higher production investments, and in turn attract larger audiences.

Another factor favouring multimedia syndication is marketing. A

high-expenditure ad campaign supporting a product release in one medium serves to increase demand in all the products' potential syndication markets, and thus realize economies of scale in the same way that high production investments can be spread over large potential audiences.

The best illustration of the compelling economic logic of multimedia syndication models is the current system of feature film distribution.

Movie distribution and Internet TV

We are all generally familiar with the process by which movies are released in sequence to cinemas, then to hotels and airlines, to videocassette and DVD, to PPV television, to monthly subscription pay TV, and finally to television broadcasting or basic cable networks. It is widely recognized that this release sequence is basically a method of price discrimination.

The key requirement for any price discrimination is the ability to segment high-value from low-value consumers. The movie release sequence appears to involve two main segmentation devices. The first is time separation between release to different media. Having intense demand for a particular movie (or movies in general) high-value consumers can be induced to pay higher prices for a first-run, while other viewers wait for video, pay TV, or later exhibitions. The second segmentation device is product quality. In general, a cinema offers a higher-quality experience than a TV transmission. Similarly, the ability of a VCR to stop and start a movie, the absence of commercials on PPV etc, are quality attributes that attract higher-value consumers. The end result is that the prices paid by different consumers in the release sequence tends to drop over time.

While it has been remarked (sometimes gleefully) that the business models of movie distributors will have to change and adapt with the internet, Internet TV actually fits naturally into this ready-made model. If effective unbundled direct pricing models evolve, internet movies will probably be exhibited in a similar time window to that currently occupied by PPV, and video rentals and sales. Internet advertising models will probably be less valuable to movie distributors, but to the extent that they do prove efficient, movies can be released on the internet, with advertiser or other commercial support, at a later point in their business lives. Precisely where the internet fits into the movie distributors' business models depends on developments in demand, technology and law that are uncertain at present but which will evolve from experimentation.

Wherever the internet eventually fits, it is unlikely to replace other movie media in the sequence. All of them, from video stores to pay cable systems, have different quality attributes and demographic appeals that further the distributors' objectives of segmenting markets in order to charge different prices for essentially the same product. DVD or videocassette retailers, for example, offer services that may never be effectively duplicated by the Web. The physical search and human interaction involved in shopping for videos has attractions for some, as do the joys of physically owning a professionally packaged DVD or tape. A related advantage of retailers is gift marketing, for which a well-packaged physical object is highly valued.

Cinema distribution also demonstrates the advantage of multimedia marketing. Advertising and publicity campaigns, sometimes costing as much as or more than the distributor grosses from theatrical exhibition, are launched to support a cinema release. Much of the benefit of such

campaigns is reaped as the film travels to video, pay TV and other media in subsequent months and years.

Internet-original and other products

The market segmentation/price discrimination opportunities for multimedia syndication are not confined to movies. Many programmes, including broadcast network programmes, made-for-pay (monthly subscription) movies and series, direct-to-video features and made-for-cable programmes, all depend heavily on syndication to other media, in domestic and foreign markets, and maximize their revenues by similar means of market segmentation.

Along similar lines, there is certain to be a wealth of 'internet-original' programming that is exhibited later, or even simultaneously, in other media. The business model of *atomfilms.com*, for example, is already heavily dependent on multimedia syndication. In addition to its website-based advertising, *atomfilms* distributes collections of its best short films to cable networks, airlines and other media, and also compiles them onto DVDs and videocassettes for rental and sale.[24]

Empirical comparisons

Multi-market syndication and programming budgets

The resulting economic advantage of programme syndication over time is simply that larger programme budgets, and thus programming with higher production values, can be supported. These more expensive programmes attract larger and higher-paying audiences. The contrasting programme investments of various entertainment products in the USA are illustrative. While there can be wide variations, the average major Hollywood studio feature was reported to cost about $52 million in 1999.[25] Based on recent trade reports, HBO's made-for-pay feature films average somewhere between $8 and $10 million, other TV movies $3.5 to $5 million, one-hour network dramatic series $1.5 to $2 million per episode, and a basic cable drama $750 000 to $1.2 million per episode.[26] All of these programmes depend heavily on aftermarket syndication to support their investment levels, and there is a general correspondence between each budget level and viability in aftermarkets.

By contrast, a recent report in *Variety* states that 3-to-5 minute 'webisodes' are budgeted at approximately $10 000 to $20 000.[27] Even feature-length projects have been reported to cost just $80 000 to $100 000. The *Quantum Project* is evidently the most expensive made-for-internet film to date, at approximately $3 million for 36 minutes of entertainment, and it was only a promotional vehicle for *sightsound.com*.[28] Of course, these relatively low budgets partly reflect the currently low household penetration rates of broadband internet. They emphasize the point, however, that while creativity and imagination can go a long way on a shoestring, and sometimes lead to extraordinary results, the most successful Internet TV programmes are likely to be those that can be successfully adapted and sold to other media.

The videocassette and cable experience

The economic significance of syndication-based business models is illustrated in the markets for prerecorded videocassettes/DVD and cable television in the USA. Video content, as described by the time usage patterns for home

24. Patrick Long, presentation at the conference, TV Over the Internet, Columbia University, New York, 10 November 2000.
25. MPA, *US Economic Review*, 2000.
26. This data compiled from 'TNT taps DeBitetto originals prexy', *Variety*, 6–12 March 2000, p 58; Schneider *et al*, 'The green behind the screen', *Electronic Media*, 2 August 1999.
27. Marc Graser, 'Only top-tier talent taps the till', *Variety*, 4–10 September 2000, p 1.
28. J. Chetwynd , 'Hollywood experiments online with "Quantum" leap to features', 4 May 2000, USA Today, p 1D.

video in Table 1, is dominated by feature films and children's programmes. As a visit to any video store shows, a vast number of obscure, narrow-appeal movies, 'how-to' self-help and other videos are also available, but the overwhelming majority of revenues are generated by feature films from the major distributors. A small proportion of feature films on video are direct-to-video movies, but these are often syndicated on cable or broadcast television. Most children's programmes on video are also exhibited on cable or broadcast television. Only a very small proportion of video releases rely entirely on rentals and sales for revenues.

The available data for US cable television in Table 2 is badly out of date, but still shows the economic importance of multi-market syndication. Theatrical features dominate pay-cable networks. Among the minority of originally produced programmes on pay-cable networks, including made-for-pay feature films, a large percentage later goes to video, broadcast or basic cable channels. For basic cable networks, the proportion of originally produced programming is much greater.

Aftermarket feature films and off-network programmes accounted for less than half of viewing in this study, but the overwhelming proportion of dramatic programming formats were directed to aftermarket programming. The percentages of original dramatic and other entertainment programming on basic cable may have increased since the mid-1980s, but again, a substantial percentage of that programming later ends up on broadcast channels.

Because the same basic economic forces are at work, there seems good reason to expect multi-market syndication business models also to dominate Internet TV.

Table 1: Videocassette/DVD content data.

Type of content (1997)		*Box Office Market Shares (1998)*		*Video Shipments Market Shares (1998)*	
Feature films	81%	Seven major studios	87%	Seven major studios	83%
Sitcoms	1	Independents	13	Independents	17
Drama series	1				
Childrens	12				
Sports	3				
Other	2				
Total	100%	**Total**	100%	**Total**	100%

Sources: (a) Media Dynamics, (b), (c): Paul Kagan Associates.

Table 1: Cable television viewing by programme source (1986).

	All programming	*Dramatic only*
Premium channels		
Original	15%	8%
Off-network	2	2
Theatrical film	83	90
Foreign acquisition	–	–
Total	100%	100%
Basic channels		
Original	56%	3%
Off-network	30	63
Theatrical film	12	32
Foreign acquisition	2	2
Total	100%	100%

Source: Waterman and Grant, 1991[29]

Conclusions

The widely discussed opportunities for interactive and other new and innovative internet entertainment, and for more narrowly focused and marginal programming in general, are backed by economic logic. Lower costs, virtually unlimited capacity, efficient interactivity and more efficient business models will all contribute to making them possible. As the video and cable TV experiences suggest, however, there will also be powerful economic forces favouring relatively expensive, broad-appeal programming, such as Hollywood movies, on Internet TV. By their nature, those are the types of programmes that are most amenable to syndication in a variety of different media, as well as to lucrative worldwide distribution.

A major challenge to the suppliers of internet-original television programmes will be to find aftermarkets for them, both in domestic and foreign markets around the world. Economic pressures also tend to encourage homogenization of content, and limit the budgets of programmes with few alternative outlets. For example, interactive programming that depends on internet architecture, or raunchier productions that do not adapt well to other media, will have major budget handicaps to overcome. It is reasonable to assume that like basic cable TV, Internet TV programming will polarize into niche-oriented, albeit cheap internet-original fare on the one side, and mass-appeal, relatively expensive, multi-market, syndicated programming on the other.

Few observers would dispute that entertainment programming has been enriched by home video and cable

29. D. Waterman and A. Grant, 'Cable television as an aftermarket', *Journal of Broadcasting and Electronic Media*, Vol 35, No 2, 1991.

television, with its new, original, more sharply focused content. But the results do seem to have fallen short of many of the hopes that visionaries had for these media – spectacularly so in some cases, such as the grand hopes for 'high culture' performing arts.

Historical experience suggests to me that these outcomes fall short of aspirations for three reasons. First, other things being equal, focusing programme content on minority interests seems to have stimulated demand less than was imagined (from either audiences or advertisers). Second, pundits have underestimated the audience-drawing power of high production values. By spending more and more on the best stars, locations and special effects, and spreading those costs over a potentially very large multimedia audience, producers have been able to keep the lion's share of viewers. Finally, many have underestimated the power of effective marketing. To support an opera in the United States certainly becomes more feasible with greater capacity (even if it attracts no more than 1% of homes), but an opera cannot compete with a blockbuster movie or a boxing match that can realize economies of scale in a national marketing campaign.

For some combination of all these reasons, it seems that most opera and other niche audiences end up watching *Titanic*. So far, internet-original entertainment programming shows great creative promise, but the economic challenges will not be easy to overcome.