Chapter XIII

Market Entry Potential and Social-Economic Implications of Internet-Based TV

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ABSTRACT

Internet-based TV alleviates the distribution channel bottleneck and shifts licensing requirements compared to traditional TV. This lowers physical entry barriers to TV markets via the Internet in various forms. The case of the German TV sector is used to analyze TV market attractiveness for new entrants. A sequential framework for assessing the market entry potential of Internet-based TV is introduced. The skills set of an Internet-based TV provider for market entry is examined. Technical and legal pre-conditions for success are reviewed, potential sources of revenue are considered. Further, the chapter highlights possible socio-economic implications in the case of successful market entry of Internet-based TV.
INTRODUCTION

The new economy is transforming the social, economic, and political foundation of institutional life and is affecting each sector of the economy (Zysman & Weber, 2001). Traditional media companies, too, are confronted with the fact that their products, e.g., entertainment and information, are affected by digitization and the Internet. The Internet enables low distribution costs, interactivity, and eliminates market entry barriers erected through broadcast licensing systems. While access to distribution channels constitutes a scarce resource for traditional media companies (e.g., Habann, 1999), the Internet provides an alternative when the necessary broadcasting rights are secured.

Reduced access barriers to the distribution infrastructure offer new players an opportunity to enter the market. Evans and Wurster (1997, 1999) describe this phenomenon for the case of newspapers. Vogel (1998, p. 213) states it more generally: "...the Internet has evolved into a low-cost, mass communication medium that empowers anyone to instantly publish—anywhere around the world—words, moving pictures, music, computer software, and anything else that can be digitized."

We have defined Internet-based TV by examining definitions of traditional broadcasting (Head & Sterling, 1990, p. 4; Bittner, 1991, p. 14; Brown & Quaal, 1998; Dominick, Sherman, & Messere, 2000) as well as definitions specifically oriented to broadcasting via the Internet (Miles, 1998, p. 1; Owen, 1999; Goldhammer & Zerdick, 2000). Our main criterion for determining whether a Web-based activity can be described as 'broadcasting' is the existence of live transmission (mostly streaming) or any related technology-based application. Therefore, we use the term 'Internet-based TV' to describe any transmission of audio-visual broadcasting content that fulfills the following conditions: (1) directed at the general public, (2) using IP-based transmission, and (3) streaming live audio or video. We have chosen to focus on the synchronous program delivery (Tapscott, 1996) of Internet-based TV in order to achieve the highest degree of comparability with the existing mainstream of traditional broadcasting.

A potential market acceptance of Internet-based TV, as defined above, raises several questions. Will Internet-based TV serve the same or new viewer segments? What kind of Internet-based TV content can we expect, how interactive will it be, what will be the balance between news and fiction, between mass and niche programs, and who will produce them? Will the players be new market entrants or will agreements be reached among existing coalitions and interest groups?

By analyzing the market entry potential for Internet-based TV in Germany, we aim to touch upon some of the concrete implications of the answers to these questions. To do so, we first develop a sequential framework. Characteristics of TV markets in general and of the German TV market in particular are presented. Each of the three sequential steps proposed in the framework are then applied. Finally, conclusions and opportunities for future research are discussed.

RESEARCH FRAMEWORK
AND DATA COLLECTION

To analyze the options for entering traditional TV markets via Internet-based TV, and to examine the industry and the broader environment faced by Internet-based TV
market entrants, we have developed a sequential framework using the following three key questions (see also Loebbecke & Falkenberg, 2002a, b):

- Is the respective TV market attractive for new entrants?
- Is an Internet-based market entrance feasible considering technical (transmission, diffusion) and legal (media law, copyright) issues?
- What revenue sources might be tapped?

The framework is termed 'sequential' because at every stage an immediate exit is suggested if the result of the analysis is not satisfactory (see Figure 1).

Additionally, a market survey based on secondary data was conducted to judge the attractiveness of the German TV market. Using secondary data for industry-wide data-gathering seems appropriate (Emory, 1976). Furthermore, the collection of primary data would have been impractical and inefficient. The main source of information was the German Commission on Concentration in the Media - KEK (2001). We also analyzed data provided by the leading publication for media information in Germany, Media Perspektiven, published monthly by the Arbeitsgemeinschaft der ARD-Werbegeellschaften. Specific additional data was collected from other sources and is referenced individually.

Before testing the framework by applying it to the German TV market, characteristics of TV markets in general and specific data on the German market are presented in the following section.

Figure 1. Checkpoints for the Feasibility of Internet-Based TV: A Sequential Framework (Loebbecke & Falkenberg, 2002a, p. 96)

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CHARACTERISTICS OF TV MARKETS IN GENERAL AND IN GERMANY

General Characteristics

TV products and services have specific characteristics, many but not all of which are applicable to Internet-based TV. They possess some attributes of public goods as consumer rivalry is absent (e.g., Baumol & Baumol, 1984; Musgrave & Musgrave, 1989). Disregarding costs for content rights, marginal costs for additional distribution of traditional broadcast TV tend to be almost zero (Spence & Owen, 1978). TV programs are experience goods as defined by Nelson (1970). TV products, both traditional and Internet-based, are confronted with the information paradox (Akerlof, 1970), which describes the fact that consumers have to experience a good in order to value it. However, after they have experienced the good, they hardly have any incentive to demand the product (Shackle, 1952). Due to this information paradox, in this case better termed 'entertainment paradox' (Dietl & Franck, 2000), providers do not have an incentive to let customers inspect, i.e., experience, the goods before acquiring them. This leads to customer uncertainty and therefore to the fact that customers will be willing to pay the same price for 'good' programs as for 'bad' ones (see also Baumol & Bowen, 1977; Rothenberg, 1962). Ex-ante, they do not know which programs are 'good' and which are 'bad'. If 'good' programs are not able to overcome this uncertainty, they risk being driven out of the market.

TV programs, particularly news and information programs, can be seen as 'merit goods' or 'merit wants' as defined by Musgrave (1998). They are provided at an imposed rather than at an individually determined consumption level, as their variety and information relevance are socially and politically desirable.

TV stations usually act in two different markets: (1) the market for audience and (2) the market for advertising. This is the so-called 'dual-market phenomenon' (see among others Picard, 1989). Both markets can be analyzed along the dimensions of customer functions, customer groups, and alternative technologies (Abell, 1980). For an application of these functions to TV markets, see Habann (1999).

The dimension customer function can vary. If TV providers offer pay TV, their function is to deliver content (information, entertainment) to directly paying recipients. If they provide commercial-free TV, their function is to attract attention to commercials, as their main customers are advertisers to whom they sell the attention of their recipients (Blumenthal & Geedenough, 1998; Picard, 1989).

The same customer groups—advertisers and audience—which are served by traditional broadcasting, could also be served by Internet-based TV. Technically, the potential reach of Internet-based TV—limited only by the access constraints of the Web—is broader than the reach of traditional TV stations, which operate primarily on a national basis. Practically, however, TV programs are produced in a given language and cater to national culture(s), information needs, and taste (see also Roscoe, 1999). Whether they are distributed via broadcast or the Internet is irrelevant. One might then argue that the potential viewers of Internet-based TV and traditional TV stations are the same. This also holds true where sizeable national populations speaking a minority language exist (e.g., approximately one million Turkish speakers in Germany). If they are already served by TV channels, they represent a sufficiently large group to be an attractive market for Internet-based TV entrants and their advertisers. Additionally,
niche program opportunities, not economically viable using the means of traditional TV, could be supported by Internet-based TV when combining the benefits of decreased ‘sink costs’ and low content costs.

If the potential public is scattered in foreign countries, Internet-based TV may also have additional potential when cost-efficient solutions for clearing rights are available. However, considering content rights, cost efficiency is only possible for Internet-originated content (Waterman, 2001) or station-made content (see public broadcasters streaming their own news and documentaries).

**Specific Characteristics of the German TV Market**

Germany is the largest television market in Europe comprising 36.5 million TV households (IDATE, 2000; Zeiler, 2002). It is characterized by a strong public broadcasting sector, dominated by the public stations ARD (with 11 regional stations) and ZDF. Both ARD and ZDF also collaborate in co-financing and programming ARTE, the French-German cultural channel; Phoenix, specialized in parliamentary coverage and information; and 3SAT, a German-language channel in collaboration with the Austrian ORF. Until April 2002, when the Kirch-Group claimed insolvency, two major private players existed: The Kirch-Group, and the RTL-Group dominated by CLT-UFA with Bertelsmann holding an 89% share. Stations operated by the Kirch-Group include SAT.1, Pro7, and Kabel 1, which, even following the insolvency, combine to provide a full spectrum of traditional program genres, and DSF, a sports channel. The RTL-Group operates four stations: RTL, reaping Germany’s highest ratings in 2001/2002; RTL II; VOX; and Super RTL, the latter being a pure entertainment channel (see Table 1).

**Table 1. Audience and Advertising Shares of German TV Stations**

*Sources: AGF/GfK Fernsehforschung, 2001; Media Perspektiven, 2001; RTL Season Guide, 2001; own calculations; see also Loebbecke & Falkenberg, 2002a*

<table>
<thead>
<tr>
<th>Station/Program</th>
<th>Audience/Group (in %)</th>
<th>Advertising/Group (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAT.1</td>
<td>10.20</td>
<td>20.87</td>
</tr>
<tr>
<td>Pro7</td>
<td>8.10</td>
<td>18.75</td>
</tr>
<tr>
<td>Kabel 1</td>
<td>5.10</td>
<td>4.82</td>
</tr>
<tr>
<td>DSF</td>
<td>1.10</td>
<td>0.03</td>
</tr>
<tr>
<td>Kirch Group</td>
<td>24.50</td>
<td>44.47</td>
</tr>
<tr>
<td>RTL</td>
<td>14.80</td>
<td>28.60</td>
</tr>
<tr>
<td>RTL II</td>
<td>4.00</td>
<td>6.24</td>
</tr>
<tr>
<td>Super RTL</td>
<td>2.80</td>
<td>1.97</td>
</tr>
<tr>
<td>VOX</td>
<td>3.10</td>
<td>4.03</td>
</tr>
<tr>
<td>RTL Group</td>
<td>24.70</td>
<td>40.84</td>
</tr>
<tr>
<td>ARD</td>
<td>26.80</td>
<td>4.09</td>
</tr>
<tr>
<td>ZDF</td>
<td>13.10</td>
<td>3.80</td>
</tr>
<tr>
<td>Publ. Broadcasting</td>
<td>39.90</td>
<td>7.89</td>
</tr>
<tr>
<td><strong>Other</strong> (18 Progs.)</td>
<td>n.a.</td>
<td>10.90</td>
</tr>
<tr>
<td><strong>Sum</strong></td>
<td><strong>100.00</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

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About 84% of all German TV households can receive more than 30 free-to-air programs (e.g., Zeiler, 2002). Depending on their region, viewers may also receive KIKA with children's programming, Eurosports, VIVA and M-TV specializing in music, N-TV with primarily news, and a variety of free-to-air programs from neighboring countries. No other country in the world offers as many national free TV programs (Johns, 1998). However, several entries into the German TV market failed recently. A rather prominent example with little success is the small station, TM3, in which Robert Murdoch was involved. For the first two years, this station targeted female audiences. With funds invested by Rupert Murdoch, TM3 then repositioned itself by acquiring the exclusive German rights to the soccer Champions League in 1998/1999. In 2000, TM3 sold the Champions League rights to RTL and became — again — a niche player. In late 2001, it repositioned itself once again, re-entering the market as the specialty TV station, Neun Live.

Despite news reports announcing declining advertising revenues in 2001-2002 and the insolvency claim registered by the Kirch Group in April 2002, investment offers from Murdoch and Berlusconi, and subsequently by the Saban Capital Group, hint at a persisting market attractiveness.

In the next three sections, we analyze the German TV market using the three criteria—market attractiveness, legal and technical constraints, and revenue sources—described in our sequential framework.

**MARKET ATTRACTIVENESS OF THE GERMAN TV MARKET**

Two characteristics are considered to analyze the structure of the German TV market for advertising and audience: (1) the market form, e.g., concentration, and (2) contestability, e.g., the impact of low entry barriers. (For the contestability concept, see among others Baumol, 1982; Baumol et al., 1982.)

**Concentration in the German TV Market**

The Hirschman-Herfindahl-Index (HHI) is used to measure both audience and advertising market concentration. It serves as an appropriate measure for TV markets (Heinrich, 1999). The HHI is defined as the sum of the squared market shares of all firms in the industry. For example: If there are four firms in an industry with market shares of 40, 30, 20, and 10 (equaling 100%), the HHI is $40^2 + 30^2 + 20^2 + 10^2 = 1,600 + 900 + 400 + 100 = 3,000$. The formula for calculating the HHI can be expressed as:

$$HHI = \sum_{i=1}^{n} (x_i)^2$$

where $X_i$ represents the market share of each single firm ‘i’ of n firms in the market.

The range of the HHI, when expressed as an absolute number as in this chapter, is between 0 and 10,000. The HHI is interpreted by the merger guidelines of the U.S. Department of Justice. A market with an HHI below 1,000 is considered as 'slightly
Table 2. Hirschmann-Herfindahl-Index (HHI) for the German TV Market

<table>
<thead>
<tr>
<th></th>
<th>Audience</th>
<th>Advertising</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Station / Program</td>
<td>1.339,21</td>
<td>1.718,54</td>
</tr>
<tr>
<td>Group</td>
<td>2.921,16</td>
<td>3.753,98</td>
</tr>
</tbody>
</table>

Source: Own calculations; see also Loebbecke & Falkenberg, 2002a

concentrated' or 'not concentrated at all'; a market with an HHI between 1,000 and 1,800 as 'somewhat concentrated'; with an HHI between 1,800 and 2,700 as 'highly concentrated'; and a market with an HHI above 2,700 as 'very highly concentrated' (Bates, 1993).

The HHI for the German TV market has been calculated based on the numbers presented in Table 1. Selected HHIs resulting from the calculations are shown in Table 2.

Table 2 reveals the audience market as being 'somewhat concentrated' if single stations are considered (HHI = 1.339,21) or as being 'very highly concentrated' if corporate groups are considered (HHI = 2.921,16). The advertising market is 'highly concentrated' for single stations (HHI = 1.718,54) and 'very highly concentrated' for groups (HHI = 3.753,98).

The assumption underlying the calculation of concentration figures is that high concentrations lead to extraordinary gains. This is supported by the profit margins registered by the two large, private German players which amount to 14.1% for the Kirch-Group and 14.2% for the RTL-Group (Media Perspektiven, 2001). Nevertheless, the importance of the market form is no longer indisputable. One may question whether the correlation between concentration and profits always holds (see among others Daughety, 1990; Farrell & Shapiro, 1990).

Contestability

According to the theory of contestable markets (e.g., Baumol, 1982; Baumol et al., 1982), the attractiveness of a market for potential entrants depends more on the entry conditions than on concentration (see in this context also Wigand, Picot, & Reichwald, 1997). Potential market entrants may be more attracted by the condition of low sunk costs than by high concentration (Young, 2000). Traditionally, broadcasting markets have had strict barriers to entry and little variation in the degree of concentration (Bates, 1993; Heinrich, 1999). Based on the theory of contestability, new technologies like Webcasting could become a threat to traditional broadcasters. Internet-based TV has lower sunk costs and therefore lower market entry barriers than broadcast TV, since it benefits from existing communications networks and requires neither heavy investment in broadcasting infrastructure nor in license fees. This coincides with Barrett’s (2000) observations on the Irish media industry where, among other factors, new technologies have played a role in increasing contestability.

Internet-based TV providers can therefore thrive with lower scale economies than those needed by traditional broadcasters. Hence, Internet-based TV providers would be
less dependent on a highly concentrated market than traditional broadcasters to recoup their investments (e.g., Demsetz, 1973).

Having analyzed the attractiveness of the German TV market based on the two criteria ‘market structure’ and ‘contestability’, it can be stated that market attractiveness is high. Due to the positive answer to question ‘1’ of our sequential framework, we proceed to its second layer, which explores technical and legal issues.

TECHNICAL AND LEGAL ISSUES FOR INTERNET-BASED TV MARKET ENTRY

Diffusion and Technical Issues

Diffusion describes the process by which an innovation is communicated and adapted over time among the members of a social system (Rogers, 1995). As streaming media reach the homes with broadband technology, the interplay between consumer applications and community evolution is expected to drive an ongoing sequence of technical innovations (Zysman & Weber, 2001). However, the diffusion of Internet-based TV is partially hindered by technical restrictions.

As of January 2001, 34.8% of all Germans older than 14 years of age were connected to the Internet (e.g., www.digi-tv.de). The number of households connected via broadband Internet access was still much lower. In 2001, approximately 2.1 million people in Germany used broadband cable, primarily DSL (see Regulierungsbehörde für Telekommunikation und Post, 2002; www.emarketer.com, however, speaks about only 1% of the German population). This measure of the number of online households is important for Internet-based TV providers because it determines the ‘technical reach’. Broadband technology is still in its infancy in Germany. Its availability and acceptance must undergo significant improvements to make Internet-based TV a viable alternative to traditional TV. Nevertheless, online access and bandwidth will increase and thus improve the chances of Internet-based TV.

Secondly, the standardization of media players is an issue. Reception of audiovisual content via the Internet is dependent on such players which enable consumers to view streamed video. As of 2002, no generally accepted player standard had emerged. However there are quasi-standards, and growing efforts to achieve compatibility are underway. Nonetheless, the best-known software programs to run TV on the Web (Realplayer, Quicktime, Windows Mediaplayer) still do not share the same file formats. Consumers have trouble with additional hard-drive space and the necessity to update their different media players regularly. This lack of standardization represents an obstacle to the diffusion of Internet-based TV. Considering the perspective of Internet-based TV providers, the absence of agreed-upon standards is problematic in that programs must be encoded for different players. Each format requires its own pool of servers and its own transmission system (Careless, 2000).

Thirdly, computers are barely adequate devices for watching TV (e.g., Dvorak, 2000). The display is limited compared to a TV screen. However, the industry adoption of the multimedia home platform (MHP) in Germany describes an effort to alleviate this problem. Additionally, with the arrival of ‘intelligent TV’, e.g., personal filtering agents for handling the flood of offers of both on-demand and live programs (Negroponte, 1995), the new technology will gain a further advantage.

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Fourthly, IP-based transmission is comparatively unreliable, but the quality of transmission is improving rapidly. Streaming software is capable of transmitting 30 frames per second compared to only eight in 1998 (Bhandari et al., 2000; Steinmetz, 2002). As the standard in Germany for analog TV (PAL) is 25 frames per second (Himmelstein & Liviscach, 2000), 30 frames would be sufficient for displaying content in the accustomed quality.

Fifthly, the diffusion of Internet-based TV is limited by access costs. If access is expensive, the viewers' willingness to pay extra for content is relatively low (Dewan et al., 1998; Thielmann & Dowling, 1999). The costs for Internet access in Germany declined by 31% in 2001. Heavy users saved almost 42.3% from 2000 to 2001 due to the rising popularity of flat rates (Federal Statistics Office Germany, 2001). Such declining access costs certainly improve the opportunity for Internet-based TV offers.

Finally, Internet-based TV providers may be confronted with negative economies of scale. The greater their market success, the worse their risk of economic failure. As the reach of an Internet-based TV station increases, its costs per customer do not decrease since they must cover the additional costs charged by an ISP (or telco) for each additional stream to every additional viewer. Therefore, Internet distribution of TV programs can easily be more expensive than cable and some other media (Noam, 2000). But as Internet bandwidth develops, Internet-based TV transmission is likely to become more economical (Waterman, 2001), leaving legal issues as the next significant constraint.

Legal Issues

While the legal situation of Internet-based TV providers is confusing and unstable, traditional TV stations face tighter constraints than Internet-based TV providers. Traditional broadcasters have to accept licensing restrictions, whereas Internet-based TV providers are confronted with contradictory regulations in the area of media law (Goldhammer & Zerdick, 2000). The main regulatory basis for TV via the Internet in Germany is the 'Medienvertrag (MDStV)', which is primarily designed for online services directed at the general public. Internet-based TV providers neither need a registration nor a license ($4 MDStV). Overall, however, there is uncertainty regarding future jurisdiction.

Copyright issues are important legal considerations for Internet-based TV (for technical solutions to copyright issues on the Internet see—among others—Clarke & Nees, 2000). Most traditional broadcasting rights are sold either regionally or nationally. A worldwide license, which would be necessary for Internet-based TV, is connected with prohibitively high costs. This builds a strong barrier for online transmission of movies and similar content.

The case of iCraveTV illustrates one facet of this issue. The Canadian station, iCraveTV, broadcast 17 Canadian and American TV programs via the Internet (Standord, 2000). They did so by receiving the programs and transmitting them to the Internet without any authorization from the TV stations. After copying the analog signals of the TV stations and transforming them into digitized signals, iCraveTV barely faced any further marginal costs. Industry giants, especially content providers like Twentieth Century Fox, Disney, ABC, and Time Warner successfully took legal action to stop iCraveTV. The station had to face a court-ordered shutdown of its website (Cave, 2000). Hence, copying TV programs from third parties into the Internet does not seem to be a
viable solution for Internet-based TV, and entering TV markets via Internet-based TV seems feasible mainly if entrants are prepared to invest in the rights to content or to limit their program to in-house productions (e.g., news or documentaries). However, when technical restrictions have been overcome and the legal situation has been clarified, important questions about revenues still have to be answered. The third layer of our sequential framework which follows evaluates various possible business models.

**BUSINESS MODELS FOR INTERNET-BASED TV**

Business models for online content can be based on (1) subscription, (2) usage-based fees, (3) advertising, and (4) online sales (Alison et al., 1998; Loebbecke, 1998; Loebbecke et al., 1998; see also Zerdick et al., 1999; Weill & Vitale, 2001). Therefore, with the exception of online sales for TV stations, the business models of Internet-based TV providers (see also Waterman, 2001) are similar to those used by traditional broadcasters.

In the following, the four different revenue streams are discussed, and their benefits and drawbacks are elaborated (see Table 3).

**Subscription Models**

The rich offer of free TV stations in Germany limits the marginal payment disposition for additional entertainment and information services (Stark & Schenk, 1999). This weakens the prospects of subscription-based business models. Subscriptions raise the risk that consumers bear because they confront consumers with a longer term obligation compared to free or fee-based offers. The risks, embedded in the 'experience good characteristic', i.e., the uncertainty about the product quality, can be reduced by brand names or with guarantees (Akerlof, 1970). This requires Internet-based TV to have gained a certain reputation before a subscription-based business model becomes a valid strategy.

Subscription represents a way of bundling the content offered (Shapiro & Varian, 1999). Bundling describes the aggregation of separate goods into a bundle of goods. From a provider’s point of view, it increases profits by smoothing the demand curve and thus shifts parts of the consumer rent to the producer. The benefits of bundling increase as the number of goods in the bundle increases. Bundling is especially attractive if marginal costs are low and the customers’ valuation of the goods in the bundle is independent (Bakos & Brynjolfsson, 1999, 2000). Both conditions are fulfilled in the case of Internet-based TV. Hence bundling will generally increase the willingness to pay, thereby enhancing revenues.

**Usage-Based Fees Models**

Usage-based fees for single bits of content are similar to pay-per-view models in traditional TV. They help to reduce the uncertainty described above by segmenting transactions (Dietl & Franck, 2000). In contrast to subscription-based business models, the viewer has multiple 'exit options'. Fee-based business models could be appropriate for providers offering 'premium content' for three reasons. Firstly, while handling charges for small payments outweigh the costs of the service (Pagani, 2000), this is
Table 3. Evaluation of Revenue Sources

<table>
<thead>
<tr>
<th>Evaluation Revenue Source</th>
<th>Benefits</th>
<th>Drawbacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subscription Usage-Based Fees</td>
<td>Bundling</td>
<td>High reputation required</td>
</tr>
<tr>
<td></td>
<td>High marginal payment disposition;</td>
<td>Efficient micro payment systems required;</td>
</tr>
<tr>
<td></td>
<td>Reduced uncertainty for customers due to exit options</td>
<td>Only applicable to ‘premium content’</td>
</tr>
<tr>
<td>Advertising</td>
<td>Problems of uncertainty solved</td>
<td>Lowest possible amount of individual payment disposition</td>
</tr>
<tr>
<td>Online Sales</td>
<td>Overcoming other --, esp. time, restrictions</td>
<td>Acceptance of interactive elements by TV audience not clear</td>
</tr>
</tbody>
</table>

expected to change with the installation of efficient micro-payment systems based on e-cash or similar technologies (Turban et al., 2002). Secondly, fee-based models can capture the marginal payment disposition of viewers for premium content better than advertising-based models (Rawolle & Hess, 2000). Thirdly, in fee-based models, streaming costs can be billed to the viewer, thus avoiding negative economies of scale.

Advertising Models

Advertising has been the most important revenue base in the private German TV sector in spite of the recent market downturn (TV advertising volume in 2001 for all stations in Germany: approximately 7.5 billion). Advertising business models rely on the concept of the dual market (audience and advertisers) as described earlier. However, the current online share of advertising budgets is comparatively low in Germany. It accounts for about 1.2% of the country’s total advertising turnover (A.C. Nielsen, 2001).

Internet-based TV can provide a variety of different advertising formats enriched with multimedia functionality (e.g., Timmers 1999). It remains to be seen how the standard TV spot and Internet advertising will merge and evolve. Advertising might also be based on such concepts as ‘content sponsorship’, i.e., the soap opera, which goes back to the early days of radio (Hanson, 2000). In the Internet era, more customized approaches and new advertising concepts gain importance (Turban et al., 2002; Pramataris et al., 2000; Lekakos et al., 2001). In the United Kingdom, two large providers (Cable & Wireless, Sky) are experimenting with interactive advertising via TV (Pagani, 2000). However, any predictions about the development of more personalized TV advertising, thanks to the Internet’s potential for interactivity, are speculative at this stage (see also Brown-Kenyon et al., 2000).

Online Sales Models

Consumer time constraints are a limitation for subscription-, usage-, and advertising-based revenue sources. Consumers are only able to spend a defined amount of time and money on media consumption. Although this amount may rise, it is and will remain
limited. Such limitations could be overcome by expanding the economic activity of TV providers to online sales. Due to the interactivity provided by Web-based solutions, additional business models, like online sales triggered by broadcasting elements, might be implemented (Alison et al., 1998). In spite of the success of TV shopping channels (Gruninger-Hermann, 1999), it is not clear whether recipients will take advantage of TV offers for transactions (e.g., Lee & Lee, 1999; Margolis, 1996), as TV causes rather passive media usage (Levy & Windahl, 1984; McQuail, 1972). This view is supported by Zimmer (2000), who predicts that active usage will gain importance only slowly. The development of interactive features in the TV sector is at a very early stage. Hence, any predictions about the future value of online sales solutions are problematic.

Overview of Revenue Sources

The underlying business models of traditional and Internet-based TV are, in some ways, comparable. Therefore, opportunities for Internet-based subscription TV are also reduced by the high availability of free-TV offers. Pay-per-view models based on premium content—often fiction films and sports—face additional copyright problems over the Internet with its global reach. The economic relevance of the advertising model that drives traditional TV broadcasters needs to be watched carefully. As of July 2002, the advertising income of traditional TV stations is much higher than the advertising income attributable to Internet-based TV or even to all Web content. Valuing innovative revenue sources like online sales or customized advertising generated by growing interactivity in any detailed manner does not seem possible at this stage.

SOCIO-ECONOMIC IMPLICATIONS OF INTERNET-BASED TV

Interest in the media has increased with the growing impact of technology, government regulation, and economic globalization (Albarran, 1996). Social values and economic interests often compete for attention within the evolving framework of legislative tools. Social concerns about free access to information—a special form of 'merit goods' (e.g., Musgrave, 1998)—and the often debated 'digital divide' become issues.

In order to promote the technical innovation necessary to support Internet-based TV, legal environments must provide incentives to upgrade infrastructure and must guarantee access for end users and Internet service providers (ISPs), i.e., application providers (Bar, 2001). These two requirements represent a certain paradox: without cost-intensive infrastructure upgrades, bandwidth will not improve. To finance these upgrades, owners of communication infrastructures may try to draw added value from their investments by controlling access to application providers. Paradoxically, without free access for ISPs and application providers, innovation may be stifled. Additionally, consumers will be more reluctant to adopt broadband technology required for Internet-based TV if they see that they are locked into a controlled access system. Hence, regulators must balance the trade-off between providing economic incentives to infrastructure upgrades and guaranteeing infrastructure access to application providers. This regulatory paradox illustrates that policy issues throughout the new economy
cannot be mended by moderate changes in the wording of old rules. The results of legislative actions will be more than policy changes; they will reflect political choices and basic values (e.g., Zysman & Weber, 2001).

Reciprocally, the prevailing political parameters and social values condition the program content options of Internet-based TV. The situation we have observed in 2002 indicates that program content closest to the definition of ‘merit goods’ has the greatest Internet-based TV potential. The provision of such goods can be justified when the consumer has faulty or insufficient information, or when a learning process is required. Therefore, optimal consumption levels for merit goods are based on value criteria that are inconsistent with the traditional notion of allocative efficiency. Typical merit goods in traditional TV have been news and information, including documentaries (see also Brown, 1996). Their variety and information relevance are socially desirable, even if individual consumer preference is not always sufficiently expressed. Such goods and access to them are, however, systemic indicators of good governance for democracies and supporting factors for human development (Norris, 2001). This defines such content—and the means of access to such content—as intrinsically desirable for the society at large.

As there is, theoretically, no single control point on the information highway, network ownership is no longer required to participate in unleashing innovation and profit (Bar, 2001). However, more than ever, unequal access opportunities exclude many around the world from reaping the economic fruits of the Internet. This situation is often referred to as the ‘digital divide’, meaning the gap between those who have access to new tools of communication and those who do not (see also Collins & Murroni, 1996). This situation has global implications that also affect highly industrialized societies (see, for instance, the previous section on the spread of broadband technology in Germany).

Having argued the economically meritorious nature, and social and democratic desirability of news and information via Internet-based TV, it follows that the fulfillment of these values are dependent on the development of access to infrastructure in Germany and worldwide.

CONCLUSION AND CRITICAL COMMENTS

Based on the observation of potential above-average profits due to the market’s oligopolistic structure and on increased contestability thanks to lower market entry barriers, the German TV market seemed to be attractive for Internet-based TV. Both of these observations, when taken alone, indicate market attractiveness for potential Internet-based TV entrants. Seen together, they lead to a well-known phenomenon: as new players enter the market, concentration will decrease putting pressure on profit margins, hence reducing overall market attractiveness.

Additionally, the diffusion of Internet-based TV is hindered by technical restrictions and unsolved legal questions. On the technical side, we note the unsatisfactory quality of picture transmission caused by bandwidth limitations (and the correlated access costs), the absence of a common standard media player, and streaming costs potentially generating negative economies of scale for providers.

Legal issues, however, emerge as the most powerful barriers to the propagation of Internet-based TV. Beyond the unsolved problem of copyrights needed for worldwide distribution, there is still general instability with regard to regulations. While this chapter
predicts that technical issues will be solved in the future, estimates about the legal situation are still ambiguous.

Internet-based TV is likely to tap some of the same revenue sources, such as advertising, as traditional TV stations. Innovative sources based on interactivity are at an early stage and thus cannot be evaluated properly. Their success will primarily depend on customer acceptance of interactive functions in the TV environment. These, in turn, will depend on affordability for users, profitability for providers, and accessibility for all.

In summary, at least in Germany, there are moderate chances for the successful entry of Internet-based TV, depending on the content to be broadcast. Internet-based TV streaming news, documentaries, and in-house productions, where international copyrights have been cleared, are seen to have the best short-term chances.

Critically assessing the research framework developed, it has proven to be applicable and helpful for evaluating a total market, but also for consulting individual stations in their strategic decision to enter the Internet-based TV sector. It is clear that the model lacks specific and detailed checkpoints, which remain to be investigated in order to precisely assess market potential and market impacts. A formalized framework for assessing the socio-economic benefits of Internet-based TV remains to be developed. As a result, the validity of some of the statements made can and should certainly be questioned. Nevertheless, as long as the market and the literature are lacking a more in-depth approach, which would be tested for validity, we feel that a proxy such as the one presented here not only provides important insights after a phase of exploratory research, but could also lead to further statistically relevant results that could ultimately be taken into account in political decision-making processes.

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REFERENCES


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Pucihar, & G. Lenart (Eds.). *Proceedings of the 15th International Electronic Commerce Conference*, Bled, Slovenia (pp. 1-18).


