

# Internet Broadcasting: Viable or Not?

## The Producers Point of View

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### Abstract

In the television market new developments like internet television contribute to a change in the current broadcasting model. Possibilities for producers arise to deliver their content directly to the viewer, without intervention of traditional broadcasting stations or cable/satellite distributors. In this research the viability of internet television broadcasting as an opportunity for producers in the Dutch television market is analyzed. In a literature research characteristics that influence this viability are identified along four perspectives, namely the economic, market, industry complexity and company perspectives. Next interviews were conducted with producers in order to probe their attitude towards internet television using the same perspectives. This attitude was then compared to the literature findings, resulting in the conclusion that, although new possibilities arise, internet does not yet offer a viable new business model for producers.

Keywords: Internet broadcasting, Television broadcasting, Producers, Business Model.

### 1. Introduction

In the Dutch television market new developments change the current broadcasting model. Internet broadcasting services, whether on-demand such as YouTube and Uitzendgemist (a Dutch portal by the public broadcasters that provides an archive of all recent broadcasted content), or live such as Joost, are increasingly used by consumers.

The increased possibilities of internet broadcasting offer an opportunity for producers to reconsider their current business models. The current supply chain, in a nutshell, is depicted in Figure 1. The arrows depict the flow of money. Broadcasters buy content from producers, or produce it themselves. They receive income from advertisers, who buy advertisement time in or around content. Distributors such as cable companies get paid or must pay for transfer to the consumer, depending on the broadcaster. The consumer in his turn pays a subscription fee to the distributor, and might generate income for the advertisers by buying their product or service.

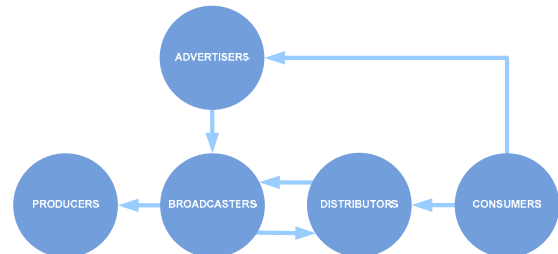


Figure 1: The current supply chain in the Dutch television industry.

With the possibilities of internet broadcasting, it has become possible for producers to bypass the broadcasters and distributors and broadcast themselves directly to the consumer over the open internet. In this case the supply chain might look as depicted in Figure 2.

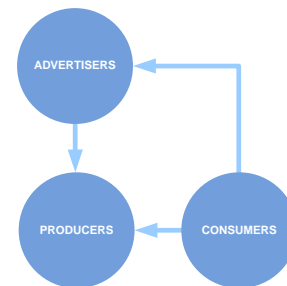


Figure 2: Supply chain with producers broadcasting over the internet directly to consumers.

The previously mentioned developments and possibilities lead to our main research question:

*To what extent will producers of digital television content, both large producers and smaller producers, distribute their content using the Internet as compared to distribution through traditional distributors?*

We can distinguish two sub questions:

1. What developments in the digital television market will both positively and negatively influence the adoption of internet broadcasting?
2. What differences in attitude will larger producers have towards internet broadcasting compared to smaller producers?

## 2. Method

The first sub question will be answered from literature, using a theoretical framework, described in the next section. The second sub question will be answered using interviews with producers, as explained in section 2.2. The developments identified by the first sub question will serve as input for the second sub question, to see whether the attitude of larger and smaller producers match the opportunities and threats identified.

### 2.1 Theoretical Framework

We identify the developments and factors that have a positive or negative influence on the adoption of internet broadcasting from literature study. For this reason we developed a framework.

Loebecke & Falkenberg (2002) propose a framework that analyzes the attractiveness of entrance to the TV market in a country (or specific region) via internet TV. The framework consists of a three-step sequence. The first step is about the market attractiveness (concentration, competition, etc.), the second step is about feasibility in technical and legal perspective and the third step is about the possible revenue models. Although the steps in our research are not sequential the three specific parts of the framework can be translated to our own framework. By identifying the influential aspects within these parts and relating this to literature it should be possible to discover which aspects have a negative and which have a positive influence on the adoption of internet broadcasting by producers.

We present the following framework, depicted in Figure 3, by extending the framework of Loebecke & Falkenberg (2002); adding a central *Company* view that is influenced by *Economic*, *Market* and *Industry complexity* aspects.

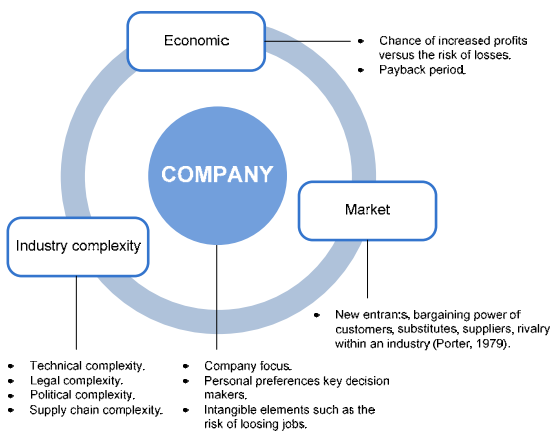


Figure 3: Perspectives of influence on a producer.

### 2.2 Interviews

In order to answer our second sub question, what differences in attitude will larger producers have towards internet broadcasting compared to smaller producers; we chose to conduct interviews with several producers.

We contacted larger and smaller producers by telephone. A list of approached producers and corresponding contact persons can be found in appendix A. We introduced ourselves and explained our research in short. We asked the person who picked up the phone, usually a receptionist, if they could put us through to the right person within the organization or provide us with the contact details of this particular person. This effort produced several names and e-mail addresses of persons that might be of interest to our research. Furthermore we used our own network with contacts in the television industry.

Not all producers we approached were willing to answer our questions. Some were willing but they were in the process of formulating their business strategy for the coming years and answering our questions would “provide too much insight in the strategy and goals of their organization”. This, however, implies that are taking internet broadcasting seriously and into account when formulating their new strategy.

## 3. Results

In section 3.1, we will provide an overview of developments and factors that have a positive or negative influence on the adoption of internet broadcasting, which arise from literature and interviews.

In section 3.2 we will provide an overview of the results from our interviews, in order to answer the second sub question. In both sections we adhere to the four perspectives as mentioned in our framework.

### 3.1 Results sub question 1

#### 3.1.1 Economical perspective

From an economical view two aspects should be taken into account when identifying influences on internet broadcasting, namely costs and income. In this section an overview of attributes of these economical aspects is outlined.

When discussing costs, Waterman (2001) discussed three ‘economical improvements’ that come with broadcasting over the internet, with respect to traditional broadcasting through cable, satellite or terrestrial. One of these improvements affects the costs of broadcasting.

Broadcasting over internet leads to lower delivery costs and reduced capacity constraints. Noam (2003) has analyzed the relative cost of various audiovisual media. Each form of delivery has its specific cost characteristics. These characteristics can be divided in the costs of the creation of content and the costs of distribution. While costs of creation are fixed in nature and largely independent of the actual usage, the costs for distribution usually vary according to the number of users, although they also have a fixed cost component. In Table 1 an overview of the costs for the various media is shown for production of content per second and distribution costs of this content per second.

The author argues that production of internet content on the one hand could be cheaper than content for traditional television (because of lower quality), but on the other hand brings extra costs when interactivity features are taken into account. However, the main difference between cable and internet broadcasting lies in the distribution of the content. The internet cost estimation is based on average costs for internet subscription fees. It should be noted though, that the costs for internet distribution are based on old data transmission subscription prices, which are decreasing continuously (OECD, 2006) and that these distribution costs are thus lowering rapidly.

	Cost	
	Content per Sec <sup>a</sup>	Distribution per Cap per Sec <sup>b</sup>
Theater	70	460
Film	9,260	52
Broadcast	555	0.068
Cable	110	0.046
Internet TV	110	1.85

<sup>a</sup>Given in dollars. <sup>b</sup>Given in millicents.

**Table 1: Estimated costs of production and distribution for various media (Noam, 2003)**

Waterman furthermore argues that the distribution costs in tradition broadcasting are somewhat fixed (delivering to the whole market at once, whether people watch or not), while for internet the costs are more variable and highly depend on the number of users, where the costs increase evenly when more users watch the content. Moreover, peer-to-peer technology could even further decrease the distribution costs for internet content.

Furthermore, if technology (like DRM) is able to guarantee the protection of copyrighted material, extra revenue could be expected of selling copies of content to users.

From the revenue aspect Waterman outlines two improvements of internet over traditional broadcasting:

The first improvement is that broadcasting over internet has more efficient advertising and sponsorship possibilities. Two aspects lead to this improved efficiency. The first aspect is that with user profiles, targeted advertisements can be shown within or around the content. From the advertisers' perspective this is an improvement with respect to traditional broadcasting, where an advertisement is shown to all viewers, of which a great deal might not even be the targeted audience. The second aspect is the measurability of internet advertising because of for example click-through counts.

With internet advertising, the effect of a commercial is much more efficient. This furthermore increases the possibilities advertisement payments (pay per click, or pay per view, etc).

At this moment, in the Dutch market, advertisement incomes from audiovisual content on the internet represent just a small portion of the total advertisement incomes in this market. This is concluded by a TNO-report on advertising in a digital television environment (Leurdijk et al. 2006). In a basic scenario developed in this report it was estimated that the total advertising spending in the Dutch market on TV, broadband internet and mobile telephony – related to audiovisual content – will grow from €358 million in 2005 to €96 million in 2008 and €1.5 billion in 2012. TV will retain the largest share of the total advertising spending in and related to audiovisual content (€50 million in 2005, €96 in 2008 and €1.2 billion in 2012).

In 2005, the share of internet advertising was still small. Within this category, advertising related to audiovisual content was even smaller. Both will certainly grow. Advertising related to audiovisual content will grow from about €3 million in 2005 to €20 million in 2012, which will represent about 50% of the total spending on internet advertising. In 2005, the larger part of the revenue from internet advertising was generated by banners. This will remain an important form of internet advertising, but income from sponsored audiovisual content on the internet and bumper ads will grow.

The second improvement is that the internet enables more efficient direct pricing and bundling. From a technical point of view, payments over the internet are quite user friendly and easy to perform. This enables internet broadcasters to use direct pricing systems so that viewers only pay for what they want to see (pay-per-view).

Furthermore, efficient bundling of various content could be applied, matched to a viewers profile or past views.

Although Waterman identifies these benefits that the internet could have to broadcasting, he also doubts the actual effectiveness of these benefits. When we look at the direct pricing for instance, viewers have been reluctant to pay for specific content besides movies and pornography (Waterman, 2001).

In a research by Chan-Olmsted & Ha on business models for internet broadcasting, the income from online advertisements is not expected to be adequate compared to the expenses for making the content. They furthermore found that currently most developments in internet broadcasting can be found in combined content, where internet and cable complement each other. In many other situations internet was only used to provide extra service to customers, instead of a new revenue capable concept. This was also concluded in the TNO-report on the Dutch television market. TNO listed a few examples where producers bypassed the broadcaster and arranged advertisements directly, but TNO expects that the main portion of income for producers will keep coming from selling content to broadcasters (Leurdijk et al. 2006).

Waterman stated something similar, namely that syndication of content through different media channels can increase revenues from content. For example, movies are first distributed in movie theatres, then sold to airlines, followed by rental services and DVD-sales and finally distribution through television. Even for internet-specific content, syndication might be beneficial. Waterman mentions the example of atomfilms.com, which broadcasts short movies made by various producers. Besides the internet distribution, collections of the best movies are also sold to airlines and cable networks to increase revenue. Another example is Disney, which broadcasts popular shows on the internet, with commercials, the day after the television broadcast (Leurdijk et al. 2006).

### 3.1.2 *Industry perspective*

The Technology Acceptance Model (TAM) introduced by Davis (1986) attempts to explain attitudes to (computing) technologies. A key purpose of TAM is to provide a basis for tracing the impact of external factors on internal beliefs, attitudes, and intentions. TAM was formulated in an attempt to achieve these goals by identifying a small number of fundamental variables.

Although the model is partially usable in our own research context, it does mention a number of real world constraints, such as limited ability, time constraints, environmental or organisational limits, or unconscious habits which will limit the freedom to act. Especially the technical and legal limitations/possibilities and the attitude towards them is interesting in our research. The industry complexity point of view in our framework deals with both technical and legal issues for producers. Within these aspects a number of variables will be identified that influence the attitude and beliefs of producers towards the industry complexity of internet broadcasting.

When looking at the industry level, Odlyzko (2001) states that content providers should not be influenced too easily by technical issues. Shown is that certain technologies are advancing at rather regular and predictable rates which indicates that content provider's attitude towards internet TV should not be influenced by current technical limitations. In this way, the flexibility of internet can be predicted so that content providers can anticipate on future developments, instead of passively waiting for certain developments or innovations to occur, e.g. bandwidth limitations. Certain technologies are well developed during the past years. Horney (2006) summarizes a number of available technologies for distributing television over the internet, including video streaming, multicast delivery and video-on-demand. Liu et al. (2007) also summarize a number of available technologies for distributing television over the internet using a peer-to-peer architecture: overlay construction, tree-based, and data-driven. A number of these peer-to-peer technologies can enable economically feasible video broadcasting over the internet which is interesting for producers to directly reach end viewers.

Regarding the use of broadband internet connection, an increasing number of people take up watching TV and other audiovisual content on the internet (TNO, 2005). Broadband internet also stimulated the use of user-generated content, such as producing and distributing home-made videos among friends and relatives. But in relation to legal issues, Cesar et al. (2006) show an extension to new broadcasting model that permits an end-user to enrich broadcast content. Examples of this enriched content are: virtual content edits; conditional text, graphic or video objects that can be placed to appear within content and triggered by viewer interaction. According to Cesar et al. the enriched content can be viewed directly within the context of the TV viewing experience. It may also be shared with other users within a distributed peer group. The proposed architecture is based on a model that allows the original content to remain unaltered.

However, the actual legal implications of distributing user-generated content (even if the underlying content was not modified) are to be further investigated within a future project the authors will participate in.

Regarding advertising limitations, current regulation in the Dutch Media Law concerning advertising on commercial TV channels is based on the European Directive 'Television without Frontiers'. The rules concern limitations on the amount of advertising and obligations concerning the identification of advertising and sponsoring in programmes (TNO, 2005). The European Commission has recently put forward proposals for amending the Television without Frontiers Directive in order to make the Directive more in line with the converging digital media landscape.

### *3.1.3 Market perspective*

Various market characteristics can influence the attitude of producers towards internet broadcasting. In order to provide a clear overview of these characteristics, Porter's (1979) five forces model is used to analyze these market characteristics. Porter's five forces model takes into account the following forces: customers, new entrants, substitutes, suppliers and competitors. These forces are examined taking producers and internet television as a central point on which these forces have effect.

#### *Substitutes*

The most obvious and already existing substitute is traditional television broadcasting over cable. In 2005 almost 84% of the 6.9 million Dutch households receive television through traditional analogue cable. The other 16% is covered by various digital substitutes, with satellite covering the largest part with 8%. Digital Cable covers 5.5% and digital terrestrial (Digitenne) 2.5%. IPTV services were operational in 2006, so were not taken into account in this research by TNO, however, there were already a couple of thousand subscriptions that would cover around 1% to 2%. Especially these digital substitutes are a threat to internet television, since they enable extra theme-channels and video-on-demand services that extend the traditional package of around 30 channels (of which 10 Dutch channels).

#### *New entrants*

New entrants to the production and broadcasting over the internet may be new small production companies that see the internet as a relatively cheap opportunity to expose their ideas and formats (like short movies on atomfilms.com).

Another category of new entrants are amateurs creating so called 'user generated content'. An example of this is the millions of movies on YouTube and other similar websites.

#### *Competition*

Competition in internet broadcasting can come from multiple angles. First of all, other producers broadcasting over the internet are direct competitors. Next to that, the earlier described new entrants are all potential competitors (depending on the kind of content they offer). Furthermore, traditional broadcasters can extend their services by broadcasting their content over the internet. The TNO-report (Leurdijk et al. 2006) also concludes that the number of content providers on the internet is by far larger than on more tradition broadcasting channels. This competition increases the importance to set yourself apart from the rest.

#### *Customers*

For producers, when broadcasting themselves on the internet, a shift occurs with respect to customers. Where in the traditional way the customer is the broadcasting network, which buys the content, which is a business to business concept, in the direct broadcasting process, the customer of the producers will not be the broadcasting network but the viewer, which is a business to consumer concept.

With internet, basically the whole internet user population may be potential customers. However, in this research the focus is on Dutch producers, producing content intended for the Dutch market. In the economical perspective some business models are described based on the viewer as customer. The success of these business models highly depends on whether enough customers (viewers) can be attracted. As said, the customer population could easily extend beyond the country borders, but it is the intended target population that matters. Waterman (2001) amongst others suggests that the potential for internet broadcasting lies in niche markets, which implicates that the intended market is quite small, compared to the whole market. Furthermore, because of the possibility of many new entrants (as described above), the aspect of competition makes it even harder to attract customers.

#### *Suppliers*

Whether producing content for the internet or other broadcasting channels, the equipment (like camera's and editing equipment) required is somewhat the same, of course depending on the quality the content that is created. When broadcasting through the internet, the cable company as distribution supplier disappears.

However, an internet hosting provider can be seen as the new supplier for online video content. When content is online streamed, bandwidth should be 'bought'. In figure 4 in the economical perspective an overview of estimated distribution costs per second of broadcasted material was given. Although the estimation was rather simplistic and based on broadband prices from 2005, it gives an indication that the costs for broadband should definitely be taken into account. By applying techniques like peer-to-peer the data transmission is partly done by viewers themselves (a viewer sends the data to another viewer) instead of each viewer receiving the content directly from the producer's website. This greatly reduces the costs for bandwidth for the producer, but brings along other problems like copyright issues.

#### *3.1.4 Company/internal perspective*

The company itself has a rather passive view from the centre of the framework and is continuously influenced by the elements in the surrounding three areas.

Since every company has a certain focus and attitude towards new developments it's of crucial essence for development acceptance to reach the key decision-makers within the company. The Internet and other public information sources make it easy to identify key company personnel, but the primary challenge is getting access to the key decision-makers (Barczak, 2005). Without the support of key decision-makers a development is unlikely to be accepted within the company which is very dependent on personal preferences. Behind these individual attitudes there might also be a general sense of threat under employees as a group. A new development might be (unnecessarily) experienced as internal competition which negatively influences the overall acceptance.

Presumed and reputed (third-party reports) credibility of announced development influences the company as a whole. There is a different attitude towards developments when certain features of it receive a common presumed (assumption in mind) credibility instead of surface (inspection) or experienced credibility (Tseng, 1999). Additionally, counter forces can occur within and between companies when two or more entities have different stakes (and attitude) in favour or against the adoption of new technology (Winston, 1998). In order to accept a technology these common stakes should be clear for all stakeholders.

Apart from the people, the business' goals and core products also play a big role in adoption of new developments. Integration issues and financial dependencies are taken into account thoroughly before even further looking into the competitive beneficial position a company might gain from it (Chan-Olmsted, 2003).

The company view is therefore mainly based on its people and business goals and is interacting with the elements from the three areas surrounding it in our framework.

### *3.2 Results sub question 2*

#### *3.2.1 Economical perspective*

From our research and discussions with content producers, it appears that the economical point of view is of utmost importance for distributing content directly to viewers through internet broadcasting. It seems however that very few profitable business models currently exist for this kind of broadcasting within the traditional industry. Producing high-quality television content is an expensive activity. Not only the costs of the actual production can be very high, but as stated by the interviewed industry people, also the creative activities that need to take place are generally very significant. For that reason, content producers, especially the pure commercial companies, have a strong focus towards the profitability of every production. Since the costs of creating an actual production remain quite the same when broadcasting through internet (as is confirmed by Noam, 2003), the income part of the economical model, which actually is highly dynamic, receives most attention by producers regarding internet broadcasting.

Traditionally, content producers earn their money by selling productions and formats to broadcasting channels. This way of doing business can potentially be continued when broadcasting through the Internet. Popular Dutch television programs such as "Mooi weer de leeuw" and "Life & Cooking" experiment with internet broadcasting, by broadcasting parts of the show on websites of the channels (Vara and RTL respectively). Since the producers still receive their money from the broadcasting channels, the business model doesn't really change that much.

However, when producers distribute their content directly to viewers, they need to find other sources of income.

According to the industry people we interviewed, several options exist: 1) product placement, whereby the product of a sponsor appears regularly on the screen, 2) traditional advertisement placement before, between and after the actual content, and 3) selling viewer information to for example direct mailing companies.

With these options, an interesting issue related to finding sources of income appears: scarcity. When multiple content producers start broadcasting content over the Internet, they feel that they will have to share the 'pool of advertisers'. In essence, this means that less money is available per production and that it will be harder to gain advertisers or sponsors for shows. Since traditional analogue broadcasting by nature limits the number of channels (for the technical limitations), this problem is less apparent (although the problem does exist of course).

Another important issue is the number of viewers that is reached. In accordance with traditional broadcasting, a show becomes more interesting for advertisers when the watching group increases while the audience is highly 'targeted'. For that reason, broadcasting shows over the internet to targeted foreign groups is potentially very interesting, although the number of internationally-focused advertisers remains questionable.

When looking at these issues, the content producers interviewed by the authors are quite pessimistic towards direct broadcasting to viewers over the internet from an economical point of view. They are still greatly dependent on the broadcasting channels and feel that essentially by skipping this chain component, it will be very hard for them to be a profitable business.

It should be noted though that more and more internet broadcasting by very small producers appears. This includes not only the broadcasts as seen on websites like YouTube.com, but for example also the highly targeted website GeekBrief.com. The website broadcasts a self-made 5-minute show twice a week, earning enough money to be profitable (as claimed by the creators). Ron Bloom and Adam Curry, executive producers of that show, broadcast a number of other internet shows on their website podshow.com, apparently showing that internet broadcasting can be viable.

As such, the trick seems to be to create highly targeted shows that are not only relatively cheap to produce but can attract international audiences and therefore also internationally focused advertisers.

Traditional producers that like to start experimenting with this kind of broadcasting might be best of producing for an international audience, thereby not only increasing the number of viewers but also limiting the chance of disturbing relationships with their current clients – the national broadcasting channels.

### 3.2.2 *Industry perspective*

Industry complexity, as elaborated before, consists out of technical complexity, legal complexity, political complexity and supply chain complexity.

If we first look at the technical complexity for broadcasting productions over the internet, we can conclude from our interviews that the problem is not on the supply side. Broadcasting over the internet is, in a technical sense, a proven concept but producers worry most about the ease of use for consumers. They believe that end-users just want to press one or two buttons in order to watch their preferred content. Set-top boxes in that respect should not be technically complicated, with a very usable interface. Dealing with this kind of devices might not be a problem for the younger generation, but it can be for the older generation which is not unimportant taking the increasing obsolescence into account.

Concerning legal complexity, many forms of contracts concerning the broadcast rights of productions are in use. This may vary from the broadcaster buying the total rights of a production to the producer keeping all the rights and only selling a permission to broadcast a production. From the interviews it is clear that legal agreements concerning broadcasting a production over the internet yet have to evolve.

Political complexity, as far as we can conclude, does not really play an important role. Of course there are regulations concerning the amount and duration of advertisements and the protection of minors from viewing content not suited for their age, but that is not an obstacle for producers.

Supply chain complexity, on the other hand, does play an important role. Since content producers are still very economically dependent on the broadcasters, the former are not very likely to move past the latter and broadcast themselves directly to the consumer. Related to this is that producers currently do not see a feasible business model in this. Questions like how much is a consumer willing to pay per show arise in this perspective. They fear that the few ten- or if successful hundred thousands of viewers do not generate enough income to finance the relatively expensive Dutch television productions. It is by far cheaper to buy foreign content and broadcast that, whether or not over the internet, than to produce your own.

Viewers are also an important part of the supply chain. Currently they are dependent on what the broadcasters program in their schedule. The producers we spoke to see a future for intelligent agents, for example build into a set-top box, that based on a user profile actively gather productions from the internet. These productions could either be free of charge or coupled to some form of a payment model, thereby surpassing the broadcasters.

### 3.2.3 *Market perspective*

For the market perspective we look at the perspectives of the Porter's five forces model, placing the producers in the middle. Concerning potential entrants, almost every producer can easily start their own internet broadcasting. The main barrier in this perspective is the investment related to the revenues, is it feasible? According to the producers we spoke to, currently it is not feasible.

Another barrier is customer loyalty, in the sense that consumers who watch television are still relatively traditional and do not easily switch between channels let alone switch to watching internet broadcasts.

Looking at bargaining power of customers, concentration of television viewers plays a crucial role since it is all about the number of viewers and the thereby related potential of selling advertisement time. In the current industry, viewers might not determine when they watch a certain production but they determine if they watch it. Broadcasters determine whether they buy a production from a producers based on expectations on the number of viewers.

If we take the bargaining power of suppliers into account, we find ourselves in the situation that producers are actually the suppliers themselves. The main problem they face is the limited amount of broadcasting time that is available through the broadcasters and the fact that broadcasters must be willing to buy their production because they see potential in it. With internet broadcasting, producers can increase their bargaining power because not a broadcaster but the company itself determines whether it is feasible to broadcast a production.

Threat of substitutes is in this sense related to the quality of substitutes. Consumers tend to watch the productions with the highest quality. Quality in this respect can be defined as a production that possesses a form of emotional storytelling or informative statement that appeals to the emotions of the viewer.

Rivalry within the industry is related to competition between producers. From our research we can state that they see the possibilities of internet broadcasting, and larger producers even have the resources to set up a separate department, but at the moment there is not much rivalry simply because internet broadcasting is hardly used. This might change in the future of course, but producers do not expect this for the coming years.

### 3.2.4 *Company/internal perspective*

As is discussed in the previous section about the internal / company angle, more 'weak' elements within the producing company tend to have a strong influence on the attitude of content producers towards direct broadcasting to viewers over the internet besides the 'external' and mostly quantifiable elements.

The interviewed industry people confirmed the existence of 'intangible' forces within their company that are of influence on the adoption of internet broadcasting by producers. Especially within more traditional companies, certain doubt and perhaps even fear exists of the possibilities of internet broadcasting. That's not surprising, since the industry has worked with the traditional supply chain of producers, broadcasting channels and distributors for years and years. Trust in this way of working in a way prohibits existing companies of easily changing the business model. However, new (and thus younger) companies have the ability to start off with fresh business models, being less limited by long standing traditions.

A number of other 'weak' factors influence the course of action that a certain company takes. For example, the (personal) preferences of key decision makers are very important. One of the interviewed people explicitly mentioned the fact that some people were more open to technological inventions than others, and that their preference was of influence on the company course of action. This underlines the premises of Winston (1998).

On the other side, an interesting example is that one of the people interviewed from an international broadcasting company, expressed that the motivation within his department was obsolescence due to centralization of commodity facilities (like the analogue broadcasting) within their global company. Therefore his department started developing and exploiting new technologies earlier than other divisions of the same company, because they felt that deploying new technologies gave them a stronger position. In fact, they indeed managed to survive centralization of services, at least for the time being.

These examples show that the internet point of view within our model indeed offers factors that need to be taken into consideration when analyzing attitudes of content producers.

#### 4. Conclusions

Comparing the results of sub question 1, the positive and negative influences within the various perspectives that influence producers to broadcast over the internet, with sub question 2, the attitude of producers we can conclude that:

Although the internet has several beneficial characteristics from an economical perspective, producers currently don't think they can benefit themselves from these characteristics. The main reasons given for this are that viewers and advertisers are still difficult to attract. However, advertisement incomes related to video content on the internet are expected to grow in the upcoming years according to Leurdijk et al. (2006), which may change the attitude of producers.

From the industrial complexity perspective current technical developments offer both limitations and possibilities. Although internet broadcasting is a proven concept the producers worry about the ease of use for consumers. Legal agreements concerning (interactive and enhancing) internet television broadcasting will evolve in the near future, where regulations concerning the amount, duration and personalization of advertisements and the protection of minors from viewing content not suited for their age are already in place. This presents no obstacle for producers. The biggest issue is developing a feasible business model that deals with the supply chain complexity. The Dutch market (roughly 7 million households) seems too small to produce shows for solely internet broadcasting in the current environment. Intelligent agents that gather productions online based on personal profile could be of aid in the future.

From a market perspective, a shift occurs with respect to customers. Where in the traditional way the customer is the broadcaster who buys the content, in the direct broadcasting process the customer will be the viewer. A barrier in this respect is customer loyalty, in the sense that consumers who watch television are still relatively traditional and do not easily switch between channels let alone switch to watching internet broadcasts. On the positive side the bargaining power of the producers can increase because not a broadcaster but the producer itself determines whether it is feasible to broadcast a production.

The attitude of key decision makers and other highly intangible factors within companies are of great importance on the general acceptability of internet broadcasting. Since traditional ways of working are still very important for content producers, hesitation is obviously a limiting factor on the exploration and exploitation of the possibilities that internet broadcasting offers.

Concluding we can state that internet broadcasting, from the producers' point of view, is not viable at the moment. We can answer our main research question by stating that broadcasting content over the internet:

- + It is technically possible but,
- There are limited feasible business models,
- Key decision makers within producers are not in favour of internet broadcasting,
- The consumer wants watching television to be simple and is not willing to pay large sums of money to watch content broadcasted over the internet,
- The Dutch market is simply too small to earn enough revenue from internet broadcasting in connection to the relatively high production costs of content. A producer should produce content that can be broadcasted internationally to increase these revenues and cover the costs.

Internet broadcasting is clearly an interesting idea, but currently not viable according to the producers we interviewed.

#### 5. Discussion

It would be interesting to see what the attitude of producers in other countries is, especially those who produce English or Spanish content for example. This content can be broadcasted over the internet in many more markets than only the home country, thereby increasing the possible revenues and in that way concede to the important economical motivation of many production companies.

We are aware of the limitations of our research because of the limited amount of interviews, and the limited willingness of producers might imply two things: either they are not interested in internet broadcasting or they see it as an important part of their business strategy which they do not wish to share with us. Since there is fierce competition in the television industry this is not totally incomprehensible.

As discussed in the theoretical framework, our model is partially based on the sequential framework by Loebecke & Falkenberg (2002). Although the limited response on the interview requests, we were able to present our proposed model and receive feedback on whether the model covered all influential perspectives or not. The extension of the model with the 'company' perspective was valuable, since we found that several internal 'intangible forces' are of influence on decision making within production companies. In contrast to the model by Loebecke & Falkenberg, we deliberately chose to discard the sequential aspect of the model. Based on talks with industry experts we feel that sequentiality within the model is not necessary for conducting the research and might even not be applicable in most of the cases.

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