

**David E. Kalisz\***

## **TRANSFORMATIONS OF THE INTERACTIVE TV MARKET IN THE NEW MEDIA**

### **Abstract**

*The subject matter of the article is – based on the analysis of both the market and the consumer – interactive television and social media operating within its area. Their significance and usefulness grow as the changes on the domestic and international television market become more and more turbulent and rampant. Numerous attempts by television related companies to implement new business models have led to the necessity to consolidate the market, creating at the same time new sub-markets operating with involvement of companies which have so far operated within the Internet industry. The subject of analysis is viewing times in individual field and the development of broadcasting-related service as well as the technical capabilities enabling integration of television with the network communities.*

*Interactive television creates a new market quality and at the same time destroys the notion of a viewer as a passive participant in the communication process. The combination of the television broadcasting's mass influence and the Internet's flexibility generates the ability to create new products and solutions. The presented new model of market competitiveness confirmed its effectiveness, when applying social strategies. Their implementation enables identification of additional revenue sources as well as creation of value innovations being a new source of thinking about these strategies, increasing the companies' operating effectiveness on the market and gaining a competitive advantage. Only the strategy of synergy of those three technologies (television, Internet and the social media) enables the achievement of a highly competitive market position.*

*Key words: interactive television, strategy, social networks, new media, innovation, competition*

---

\* Ph.D. candidate, Collegium of Management and Finance, Warsaw School of Economics.

## 1. Internet as the new television broadcast medium

The last decade of the electronic media market<sup>[1]</sup> [Jaskiernia 2010, p. 8] has brought us an increased number of increasingly rampant transformations resulting from technological progress. The global recession brought panic to the television market and significantly lowered investors' confidence. While economic recovery has brought a certain financial stability for traditional broadcasters, we have indeed entered the new era, where – even though television still remains the main video content consumption medium – a fragmentation of the audience becomes one of the biggest threats to outdated business models. Deep interdependence and inter-permeability of television and the Internet creates a situation where traditional broadcasters can no longer afford to ignore the fundamental basis of operation of the Internet broadcasters<sup>[2]</sup> [Ślęzak 2005, p.180] based on advanced technology [Gartner Industry Research 2009, p. 4].

Digitisation of broadcast content, an increased level of broadband Internet access, data transmission speed and effective methods of image compression are all prerequisites of interactive television. Evolution involves introduction of the television content into the Internet [Gartner Industry Research 2010]<sup>[3]</sup>, but also expansion of interactivity and introduction of VOD-type additional services<sup>[4]</sup>. We have seen the ever broader use of the Internet as a medium for various type of services. Through its use as a two-way network, with application of advanced conversion methods, the Internet has ceased to be just a medium for propagating television but has become television's natural biggest competitor [Olko, Fatyga 2011, p. 1].

An inherent asset of digital technologies used in media are various additional services, which enrich the standard delivered content, e.g. pay-per-view, VOD or time-shifted watching. Services available via the Internet are of an entirely different nature. They are enriched with detailed information about each programme, as well as with additional materials, often with the ability to download those materials, or provide access to them for a specified time only, as is often the case with VOD.

---

1 electronic media – media which utilize the electronic means to distribute content

2 in all variations of internet television and iTV the presentation of content takes on a character of public broadcasting or public communication and publishing; to standardize the form, this field of exploitation became known as Internet broadcasting.

3 the Gartner's predictions indicate that by the end of 2014 the number of available broadband Internet connections will reach 644 million, and the production of Internet-enabled TVs will reach the level of 70 million (excluding game consoles and set-top-box devices).

4 VOD – Video on Demand, see [http://pl.wikipedia.org/wiki/Wideo\\_na\\_życzenie](http://pl.wikipedia.org/wiki/Wideo_na_życzenie)

## 2. Internet television and Interactive television

To properly understand the concept of interactive television a clear explanation is necessary of how it differs from Internet television<sup>[5]</sup> [Barta, Markiewicz 2007, p. 13]. The Internet television (Internet TV) is, in its simplest form, distributed via the Internet to computers, or – when using *set-top-boxes*<sup>[6]</sup> – to television screens. For Internet television one can theoretically consider various types of aggregators, which are a certain type of a multiplex, offering the ability to broadcast (in various forms) the content prepared by a third party. Europe, North America and Japan have implemented basic standardization activities for interactive television in their area of service provisioning signal compression and content distribution mechanisms via the Internet [Lugmayr, et al. 2004, p. 11].

Interactive television (iTV) is a broadcasting variant, which allows viewers to interfere with television's functioning itself, i.e. distribute programs via a separate part of the digital television network with advanced interaction capabilities and on-demand services. The iTV system has been developed to ensure delivery of video and audio signals to the end-customer over the network infrastructure, minimizing any unauthorized access threats.

From another perspective, iTV is a contemporary, spectacular multimedia service enabling distribution of video within the network environment, offering digital transmission of data and presence of the return channel. Interactive television is a tool which combines positive features of television communication channels and the Internet, which translates into new opportunities to generate revenue [Dalmas, Molina, et al. 2001]. In order to get the viewer involved with the transmitted content, advanced broadcast methods, which combine the television and the Internet, are used. In latest years it was the Internet that became the primary source of information and the new media in the area of broadly viewed entertainment. However, before it came to that, this market experienced a strong resistance from the media sector. The Internet led to the abolition of distribution barriers, enabled provisioning of diverse content shaped by consumers' expectations, and introducing the concept of provisioning of free content, and thus weakening the traditional television sector model [Venturini 2011, p. 12].

iTV leads to a change of the traditional passive content delivery method (the push model) to a model, where viewers can decide, to a significant degree, what and when they want to view something (the pull model). The passive,

---

<sup>5</sup> one should note however that the notion of interactive television begins to gradually supersede the term Internet television

<sup>6</sup> Set-top box ( STB device, STB decoder) - an electronic device connected to a TV. It enables playback of video, sound, browse Internet websites, play computer games, etc.

linear (push) communication is based on an assumption that the programme can be received only in the way it is made available; whereas active, non-linear (pull) communication enables reception of the desired content only, while at the same time taking on a highly personalized nature [Frank, McGuire 2009, p. 59]. It is not hard to question the competitive advantage sources of traditional models based on ownership and a vertically integrated distribution network. On the other side there is the newly emerged sub-market based on the broadband distribution, supported by the services of the Catch-up<sup>[7]</sup> or VOD type. Currently, we are experiencing a departure from B2B models, for the benefit of potentially better business models based on a deeper and more direct relation with the end-consumer.

### **3. Interactivity and content distribution forms**

The very concept of interactivity is not unambiguous. The term "interactive television" is frequently used to describe various, diverse types of interactivity. In this case, from all the available layers of interactivity, the most important is the one which allows shaping of the content of television programmes<sup>[8]</sup>. The existence of iTV has enabled the so-far passive viewer to create the de facto own individual television programme to a higher and higher degree. This leads to a change of the current multicast transmission, where a particular channel is broadcast to all users, regardless of their expectations and preferences, to an unicast transmission, where only the content requested by the viewer is delivered. Modern programming, recommendations, indicating specific materials - these are the things that differentiate internet television projects from common aggregators of video content. The process of digitisation and convergence has led to transformation of the current model of mass communication<sup>[9]</sup>; and the decay of its attributes, resulting from this technological progress, and is reflected both in the relations between the broadcaster and the recipient, and in a shift of control of communication over to the recipient. The emergence of iTV in this process has enabled, apart from the rich content, expansion of interaction and such notions as individualization, personalization and asynchronicity. Interactive television is also of special significance for

---

<sup>7</sup> Catch-up TV (Replay TV), a VOD service, where television programmes are made available for the period of several days from the first broadcast, see [http://en.wikipedia.org/wiki/Video\\_on\\_demand#Catch\\_up\\_TV](http://en.wikipedia.org/wiki/Video_on_demand#Catch_up_TV) (20.04.2012)

<sup>8</sup> other types of interactivity are: hardware-sensitive interactivity and interactivity with the content presented in television (co-activity)

<sup>9</sup> the traditional understanding of mass communication is the transmission of uniform content addressed to a massive number of anonymous, socially diverse groups of recipients via technical devices; transmitted content is received publically, the content reaches recipients quickly and at the same time but its availability and up-to-datedness is of short time span.

persons, who haven't used the Internet's resources as of yet, by giving them an opportunity to receive services directly from the screen of their TV set, and control them from a specially designed EPG<sup>[10]</sup> navigation interface. As for the typology of forms used in the case of works/programmes transmitted over the Internet, there are basically two technical methods to gain access to television programs – downloading and streaming, although there are many architectures and technologies recommended for use in the interactive television and processing of data. In most cases determination of the architecture depends exclusively on the available technology [Dolan 2001, p. 28]. From iTV's perspective this article focuses only on streaming, a technology which enables network downloading of data as a stream, and commence playback of data as soon as the connection is established. However, streaming itself is not a separate field of exploitation but only a technology used to transmit data in real time (*live streaming, real time streaming*) or on demand (*on-demand transmissions*), where it's the user who decides what he wants to view and from which point. Each of the streaming types is associated with the pull technology, where content is downloaded on request of a particular user. Streaming can be divided into webcasting (an equivalent of a communication sent to the public), simulcasting (an equivalent of re-broadcasting) and *on-demand* services, which in the light of the copyright law is an incident of making a non-linear service available to users. The convention of the operation of iTV is synonymous with the operation of *on-demand services*, understood as addressed individually and rendered at users' individual requests at specific times [EP 2007, p.332].

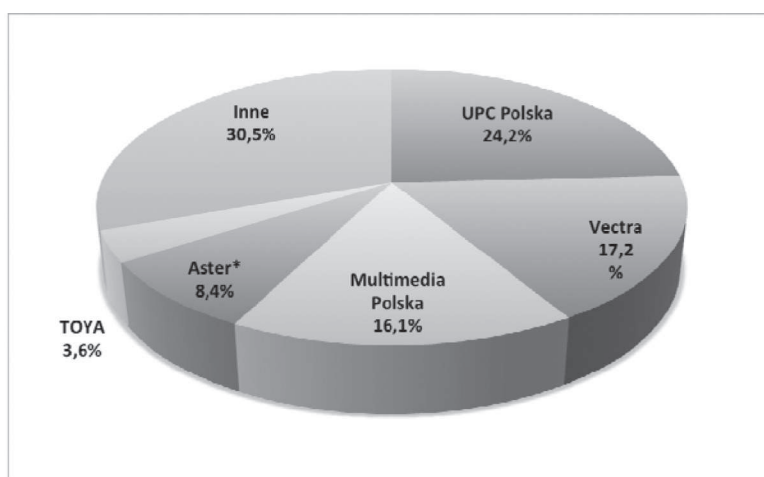
#### **4. Consolidation and the television market**

The process of consolidation of the television market, both cable operators and TV sat operators, in Poland has become a fact. After the merger of UPC and Aster networks their total market share increased to 32.6 per cent, whereas other operators hold respectively: 17.2 – Vectra, 16.1 – Multimedia [PIKE 2011]. The important factor is that there are additionally several hundred local operators that hold as much as 30.5 per cent of the market and they will surely participate in the subsequent consolidation phase. Another issue is digital platforms. The ITI Group gets rid of the least profitable business in its portfolio - the "n" platform, preserving, at the same time, control over its core business and gaining a new partner – Canal+, belonging to the Vivendi corporation, the owner of Cyfra+. In the resulting joint venture, if it gets approved by the anti-monopoly office [Tellenbach 2012], ITI will keep 32

---

10 EPG – Electronic Program Guide, see [http://en.wikipedia.org/wiki/Electronic\\_program\\_guide](http://en.wikipedia.org/wiki/Electronic_program_guide) (19.03.2012)

per cent of shares, Canal+ will take over the majority share of 51 per cent, and UPC will get 17 per cent. According to experts, this merger will create a new negotiation force for n/C+, and also a chance to form a sort of a power house offering resources and a technology base for other European countries [Wierzchowska 2012, p. 46]. The market share of individual operators is presented on Fig. 1.



**Figure 1.** Cable television market in Poland [Source: own studies based on the data from <http://www.pike.org.pl/>, the Polish Chamber for Electronic Communication (PIKE)].

Digital terrestrial television (DVBT) and the created multiplexes (MUX) bring a significant change to the market structure. In 2012, approximately 70 per cent of the Polish households have already been subscribers of the digital television. There is a risk that some of them – mostly those that subscribe the basic packages – will cancel their paid subscription and switch to DVBT. The cost of entry into the new multiplexes is high and there is no guarantee that future profits will be able to match it. This phenomenon leads to a situation where there is no diversity in available viewing on MUX and in digital television packages (DTH). Consequently, this results in increased irritation between competitors in the thematic channels market, which reduces the strong position of the largest stations. In the period 2005-2012, their share of general viewing time decreased from 78 to 60 per cent. The averaged data from five European countries with the highest on-line television audience index is presented in table 1; for comparison: in the USA, during the same period, average daily on-line television viewing time amounted to 31 minutes.

**Table 1.** Average viewing time in EU-5 countries in 2010

	<b>On-line TV</b>	<b>On-line TV (per cent)</b>	<b>Linear TV</b>	<b>Linear TV (per cent)</b>
Germany	35 min	13.5 per cent	258 min	86.5 per cent
The United Kingdom	33 min	12.0 per cent	275 min	88.0 per cent
Spain	31 min	11.8 per cent	265 min	82.2 per cent
France	24 min	10 per cent	236 min	90.0 per cent
Italy	20 min	7.6 per cent	266 min	92.4 per cent

Source: own study based on F. Venturini, *Bringing TV to life, Issue II, the race to dominate the future of TV*, Accenture, 2011, p. 7.

The time spent watching TV still increases, even among younger generations, but live TV is absolutely the biggest element of video consumption, especially in Europe. According to Forrester Research [2010], even in the most advanced digital markets, such as Sweden and the United Kingdom, more than 70 per cent of all the time spent watching TV is spent on live transmissions. Nevertheless, multi-screen viewer population continues to rise, causing at the same time a drop in the number of linear broadcast viewers; in the period 2007-2009 television viewing time for Internet users decreased from 80 to 63 per cent.

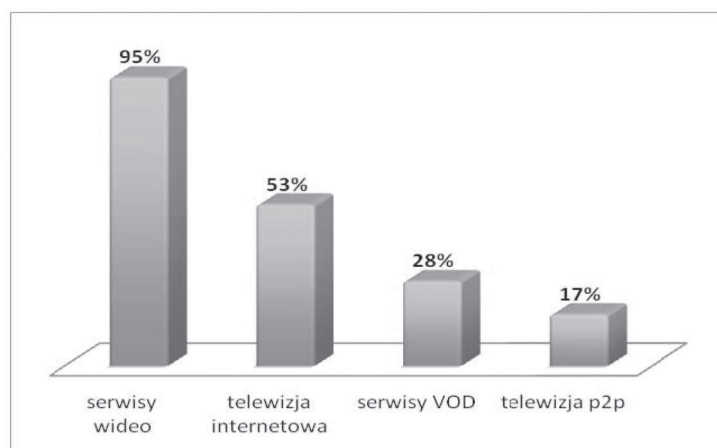
Case studies analyzing time spent watching television, conducted by Mindshare, Comscore and BARB [Pounder, Richardson 2011] also highlight the increase of the general daily viewing time for television in their forecast for the period 2010-2020 from 259 to 281 minutes, with the year 2010 as follows respectively: 19 min – iTV, 17 min – Catch-up and 223 min – live broadcast, and for the year 2020: 40 min – iTV, 48 min – Catch-up and 193 min – live broadcast, which still constitutes 70 per cent of the total viewing time. This analysis proves that against popular belief predicting a quick demise of linear broadcasting, it will still make up more than 2/3 of the total content until the end of the decade. Research by E. Frank [Frank 2009, p. 3] indicates that viewing ratings for live broadcasting (309 min) and for linear TV in total (353 min) are still incomparably higher than the viewing ratings for the Internet (49 min out of the total 143 min spent in front of the computer)<sup>[11]</sup>.

According to research by F. Venturini [Venturini, op. cit.], television content constitutes ca. 80 per cent of the content transmitted via other screens. The Internet has evolved right in front of our eyes. From a medium based on the written word it has transformed into a medium, where multimedia takes precedence. In a few years, 90 per cent of the total network traffic will be

<sup>11</sup> the research was conducted for Nielsen Center for Research Excellence, Ball State University in 2009 based on a sample of n=752

audio and video content [Dwornik 2011a, p. 2]. In the period 2007-2012, the time spent watching the four biggest TV stations in Poland shrank from 107 to 71 minutes per day, mainly amongst the age group 13-19, but one must note here that an essential role here is played by social media. Despite this huge drop in viewing time, television content occupies the first spot among the most frequently commented contents on Facebook.

Video content suppliers in the network in Poland have an audience of 17.8 million unique viewing ranges, which during the period 2010-2011 increased by 18 per cent [Dwornik, 2011b, p. 8]. The viewers' group of the internet television exceeded 50 per cent of all the network users already in the middle of the last year, although those users differ in the way they access the video content, which is shown on Figure 2.



**Figure 2.** Video content viewed by the Internet users in Poland (2011). [Source: Gemius and Onet . Audio i wideo w sieci (En. Audio & Video in the Network), January 2011]

An investment in the internet field of exploitation comes down mainly to VOD and the Polish video on-demand market players – Ipla application, TVN Player and HBO GO. Although the NBC data indicates only a close to 2 per cent proportion of the non-linear viewing time, a 30-minute daily increase in the total television viewing time has been observed in the period 2007-2012. However, the psychological analysis of a statistical viewer highlights significant differences in the method of the content consumption. The Internet users are accustomed to pay-free content, and their reaction to advertisements is much lower than that of standard viewers. Models of video consumption change fast, and the new consumer profile is more diverse, multi-layered and



requires a non-standard approach [iab, 2010, p. 17]. Active consumption has become more common not only among young people but has also spread onto other demographic segments, and thus the consumers have already got used to receiving content on their own terms, the effect of which is a transfer of the viewers' loyalty from channel brands to content brands. In the future, iTV and the Internet may lead to the creation of a new information-interactive layer, enabling viewers to send feedback information not in form of the content but rather reactions to the content shown on the screen. This would enable massive personalization of the media with the use of social media and the Internet, and - as a result - creation of personalized content layers and ad hoc-created network communities. Facing the strong influence of iTV, manufacturers of home theatre electronics introduce innovations aimed at keeping viewers in front of their TV sets, e.g. the broadcast of 3D programmes or the Smart TV technology.

The mass media market is characterized by deep contrast to the Internet market. While the mass broadcast features the limited content available to many users, the Internet offers the unique content available to unique users. Linear channels generate passive, highly anonymous consumption, whereas the on-line market, by offering interactive capabilities, creates the entirely different consumer experience in regard to the multimedia content. According to M. Fink, M. Covell and S. Baluj [Fink, et al. 2008, p.10] only the strategy of synergy of those two publishing technologies (television and the Internet) will allow reaching a highly competitive market position. As content carrier, on-line video offers multiple possibilities and this potential may cause the internet video content's popularity to overshadow, in due time, the "old-school" television.

## **5. A model combined with social media**

The activity model of television sector companies used in the network allows for combining of content received by the viewer with viewer-related services, available via the Internet. The concept of the operation is based on a combination of consumer-side interface, a server with a database (including television statistics) and the social media application available in the network. When a viewer is watching the X programme, and his/her relatives or friends are watching the same programme at the same time, this creates an ad hoc community and thus allows them to recommend and comment on the content in real time.

Personalization of the broadcast content can take on 4 dimensions, which are: personalized information layers, ad hoc-created communities, popularity ratings in real time and product recommendations based on television content

[Fink, et al. op. cit.]. Such solutions allow integration of television content with any web browser (e.g. Google) and recommendations for purchasing of specific products to viewers, e.g. clothes worn by actors, or help find the closest shop (after entering a zip code), purchase a music file (via e.g. iTunes) or just acquire additional information about places, objects or persons related with a particular scenery seen on the screen. Naturally, this opens a wide range of possibilities for getting the user involved in the distributed content. The model uses the information hashing procedure based on the method of matching with the database located on the server. The Markov model was used to create the matched-pairs [Petrushin 1997, p. 10]<sup>[12]</sup>, based on a 66-element set of probabilities resulting from data matching. Finally, the matching model of the probabilities with the content queries (q), database vectors, the network structure, the N number of views (xN), has the following form:

$$P_{q \times N} = \frac{1}{n} \sum_{i=1}^n P_{q_i, x_{N+i}} - P_{q_i, x_{N+i-1}}$$

where  $q_n, x_{N+n}$  is the difference between 32-bit displayed information of vectors  $q_n$  and  $x_m$ .

In order to prevent erroneous linking of information, a filtering method was used, taking under consideration the between-channel change time (calculated in seconds L) and historical data (the last 5 seconds), and the matched-pairs were marked  $M_h$  and  $C_h$  [and the best of them were marked  $M_0$  and  $C_0$ , taking under consideration the so called probability confidence logarithm ( $C_h = \ln L$ )], with the Markov probability  $e^{-1/L}$ , where 1 – time duration. If such matching, after taking under consideration historical data, gives different values, the value with the biggest probability index is taken as the final value:

$$M_0, C_0 = M_h, C_h - 1/L \text{ if } C_h - 1/L > C_0 \text{ otherwise } M_0, C_0$$

where  $M_0$  is the match created by the social media application (the database's answer to the query concerning the content), and  $M_0$  and  $C_0$  are the queries moved to the next period of time (plus 5 seconds) as  $M_h, C_h$  [Fink, et al., op. cit.].

## 6. Influence of the community on the television content

Since 2000 the analysis of the television market has underlined the outdatedness of the model, where the market power is on the side of the broadcasters, and the reception modes have remained unchanged for years,

---

<sup>12</sup> see [http://en.wikipedia.org/wiki/Markov\\_model](http://en.wikipedia.org/wiki/Markov_model) and [http://en.wikipedia.org/wiki/Hidden\\_Markov\\_model](http://en.wikipedia.org/wiki/Hidden_Markov_model) (23.03.2012)

with the simultaneous hardening of programme formats. A new chapter in content management was opened by such solutions as *Google TV* or *Amazon Instant Video*, which operate globally and independently of the infrastructure. The interesting fact is that competition is intensified by sites operating on the fringe of legality, often within the grey zone, such *movie2k.to* or *kono.to* [Roland Berger 2012, p.4]. For example, in Germany there are 250 traditional broadcasters and 1000 VOD service providers. Such competition on one hand, and spotting potential viewers on the other, make linear broadcasters more inclined to use the cross-function models. The British *X-Factor* has gathered almost 4 million fans on its facebook fanpage, and *American Idol*, slightly more than 7 million (on seven fanpages in total) [Roland Berger, op. cit.]. Thus, as the natural order of things, the currently manufactured TV sets (Samsung, Loewe) enable access to both VOD and the social network applications, and in case of game consoles such as *Xbox* or *Playstation 3*, Sony allowed transfer of the content available in BBC, HBO and Sky.

With a high degree of probability we can predict that television, as it is today, will cease to exist by the end of the decade. The struggle for its future continues, mostly due to the changes that occur in the area of technology, market layout and shared content. Their nature goes in the direction of building the network composed of linear television content, video materials, communities, the Internet, and also of content generated by users themselves. The last years have seen a tremendous change. Media centres, such as Hulu/Netflix or iPlayer created by BBC, which have made the premium content available globally, can serve as an example. This has led to emergence of a new business model form, making broadcasters into a peculiar hybrid construct similar to a content shop [Hansen 2005, p. 38]. The interactive HBB<sup>[13]</sup> standard allowed to combine - at the same time - television content with the Internet on a single platform.

Research by Roland Berger [op. cit.] shows that by the year 2020 the nature of those changes will be even more profound. Players that publish video content on-line (OTT<sup>[14]</sup>), will become part of the television market, forming at the same time the new competitive advantage configuration of powers of the media macro-environment. The market will surely expand with players and products like: Facebook, Google+, Apple TV (including iTunes), YouTube, Netflix or Hulu [emedia Institute, 2012, p. 6], which - when entering the new business areas - will make users-viewers themselves decide on a type of content they want to view. The people's choice of television programmes is more and

---

13 HBB or HbbTV – is both an industrial standard and a promotional initiative of a hybrid digital television aimed at harmonising the broadcast, IPTV (iTV), and the broadband delivery of entertainment to the end consumer via Smart TVs and set-top-boxes, after: <http://www.hbbtv.org/> (23.04.2012)

14 OTT (over-the-top content), on-line delivery of the audio and video content without the Internet service provider (e.g. Comcast, Verizon), see [http://en.wikipedia.org/wiki/Over-the-top\\_content](http://en.wikipedia.org/wiki/Over-the-top_content) (23.04.2012)

more often based on viewers opinions published on Facebook. In the USA it is common to verify opinions of programmes using Google TV and smartphones, which is evident proof that the TV set's remote controller is used less and less frequently. Availability of the Internet in the TV set enables efficient verification of content, followed frequently by an on-line purchase of the content.

The model of the broadcasting programmes in real time fades out at a bigger and bigger rate due to implementation of product innovations such as digital set-top-boxes, on-demand services and high-speed data transmission. OTT providers are quickly becoming a strong competition for traditional broadcasters, offering each user the ability to playback the content multiple times. The very access to unique content, with the biggest revenue generating capabilities, ignites real interest of users and consumers on the market, leading to the abolishing of entry barriers to the television ecosystem. Currently, access to technology drives content's success, but one may state with a strong conviction that quite soon this success will be warranted by the ability to gain a high level of attention and interest of the network users. Only the broadcasters with the unique - also quality-wise - content will be able to promote and sell diversified formats of the owned content, using the network communities which more and more often are the element that co-creates the television content.

Social networks will make it possible to create one's own television schedule, a quasi-programme format, taking under consideration opinions of other users, just as is already happening in the American market, where on average item may become mass-recommended and viewed when it gathers 500 "Likes" on Facebook [Roland Berger, op. cit.]. For the first time in the history of television viewers' opinions are gaining significance - they are becoming an opinion-forming source for creation of video content. The Facebook culture is starting to affect alarger number of markets and this phenomenon is accelerating rapidly. On-demand services, on-line recommendations and Catch-up are starting to replace electronic guides and convergent services. The ability to view content on a computer screen and receive additional formats on tablets and smartphones has become the new and rapidly growing content viewing method.

## **7. The new competition framework**

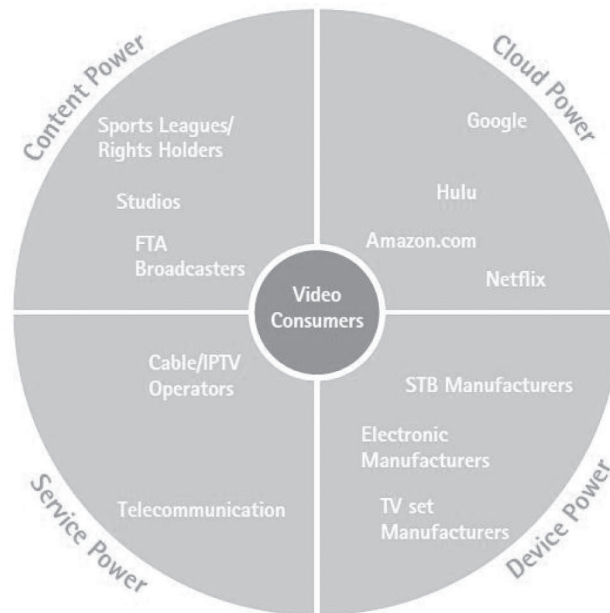
The interactive television market is currently in the process of formation, but its analysis in the international perspective allows us to distinguish the key players which differ by elements of competitive advantage, content delivery and transmission method. This enables us to distinguish four main groups with similar features in the area of: content, services, devices and availability of solutions "in the cloud" [Salil, et al. 2012, p. 27].

On the content side there are traditional broadcasters that see iTV's potential and which want to deliver content themselves without involvement of third parties; on the other hand those companies must be very vigilant not to lose their current strong position on the linear broadcast market. The advantage group of the service nature is limited basically to the telecommunication companies which aggregate consumption of combined services (*triple play/four play*). Those companies play here the role of a universal interface for the user from any device<sup>[15]</sup>. In the hardware advantage group there are of course the manufacturers (of computers, TV sets with set-top-boxes, tablets, mobile phones and smartphones) that have the means to create their own VOD platform. The new concept in these cases is the afore-mentioned cloud computing<sup>[16]</sup>, a processing model based on the use of services provided by third parties. Functionality is understood here as a service (providing added value for the customer) offered by a particular piece of software (and the necessary infrastructure). This eliminates the need to purchase licenses or install and administer software and enables distribution of video to any device connected to the Internet. Although this group may lack media market experience in concluding content-unique contracts, it has managed to develop the key ability to capture and manage on-line needs and behaviours of consumers. The new competition layout in the graphical form is presented on Figure 3.

---

15 in most cases having the CDN (Content Delivery Network), having the ability to ensure adequate quality of services

16 Cloud computing, see [http://en.wikipedia.org/wiki/Cloud\\_computing](http://en.wikipedia.org/wiki/Cloud_computing) (23.04.2012)



**Figure 3.** New competition layout on the television market [Source: own study based on F. Venturini, *Bringing TV to life*, Issue II, the race to dominate the future of TV, Accenture, 2011, p. 10]

Interactive television creates a new market quality and at the same time destroys the notion of a viewer as a passive participant in the communication process. A combination of the mass influence of television broadcasting and the Internet's flexibility generates the ability to create new products and solutions. However, implementation and deployment of iTV in connection with the power of the social media is a highly delicate process, which requires advanced dexterity in creating product images and conveying them to potential consumers. iTV provides a countless number of useful applications which increase the general comfort of using television. Interactive services should be viewed as a part of the general television provisioning infrastructure, although in order to offer this kind of service and meet consumers' requirements one should allow certain experimenting [Withnell 2006, p. 3]. Content providers, broadcasters and network owners must continue to develop, and perfect the process of creating interactive services. We have learnt quite a lot about interactive television throughout recent years and this knowledge may come in handy when creating new interactive services for iTV.

Interactive television leads a double life both as an element of conflict and harmony of social communities, becoming less of an issue of interactive

content and context services, and more of an issue of compliance with the increase in the level of social entertainment and, in a sense, aspects of human, new dimension of television consumption [Christensen 2009, p. 9]. According to Susan Fournier from Harvard Business School, if television companies want to restore growth in their brand loyalty level they must reject a single, accepted on a large scale, all-matching model and learn how to understand requirements of the new consumer, and then match their brand and the offered products to the consumer [Maad 2011, p.10].

## **8. Digital strategy vs. Social strategy**

Social strategy has an advantage over digital strategy used so far, because the basis of a community are the ties and relations between people, and not between not companies. A company which applies this kind of strategy helps its customers (and in case of television - its viewers) establish and strengthen relations, bringing benefits for either of the parties in the form of the value innovations [Kim, Mauborgne 2005, p. 68].

Nowadays, broadcasters focus mainly on application of the digital strategy, involving the broadcast of advertisements and getting the feedback from consumers to improve activities of the marketing nature, but first of all to strengthen the sales force. Whereas in the social strategy, by building relations between users and the company, apart from establishing ties, we get (e.g. through viewer recommendations) free labour on behalf of the company [Piskorski 2011].

As mentioned above, the contemporary user is not interested in either advertisements or the ability to send feedback to the company, because relations that the Internet users and viewers want to establish are with people and not with companies. In this regard success is enjoyed by the companies that execute a social strategy in three dimensions:

1. reduce costs or encourage viewers to increase their spending,
2. help establish or strengthen relations,
3. do this in exchange for workdone at no charge on behalf of the company [Piskorski, op. cit.]

## **9. Conclusions**

Both technological and business innovations have a decisive effect on the mechanisms of distribution in the television business. This poses a particular risk for broadcasters due to market maturity and the lack of identification of contemporary consumers' needs. However, instead of implementing tactical and ambitious plans to introduce new products and new services, companies must

make a transition to a more structured social strategy based on cooperation with consumers. The necessity of this cooperation results from the lack of suitable knowledge and operating experience on the newly reconstructed television market. Activities of the social nature directly affect the efficiency of operation of the interactive television and its further development.

Broadcasters will continue in the direction of the business-to-consumer activities, providing users with unlimited access both to the linear broadcast and the non-linear broadcast linked with the network communities, also taking advantage of the possibilities that the competition model based on operating "in the cloud" offers.

Naturally, there is no such thing as a single direction of development of the television market and it is difficult to give one recipe for success. However, one can surely claim that only ignoring the model based on the competition itself and noticing the possibilities arising from cooperation with communities will allow the companies to survive on the market. Failure to see this market shift will surely be taken advantage of by new players that notice the new possibilities and utilize the quick progress of technology. They will barge onto the television market with an impact, winning masses of new, demanding but open to new possibilities of interaction viewers.

## References

1. Adams M., Anand P., Fox S., *Interactive Television: Coming to a Screen Near You*, New York: TV Books, 2001
2. Austerberry D., *The Technology of Video and Audio Streaming*, Elsevier 2005
3. Barta J., Markiewicz R., *Telewizja interaktywna a prawo autorskie*, Wolters Kluwer Polska, Warszawa 2007
4. Christensen L.H., *Out of Interactive TV*, VR Media Lab & Dept. of Communication, University of Aalborg, 2005
5. Dalmas R., Molina J., Navarro-Grau M., Sugiyama A., *From Vertical to Concentric*. Kellogg TechVenture 2001 Anthology, 2001
6. Dolan M.A., *Report on Television Data Applications*, U.S. Department of Commerce Information Technology Laboratory National Institute of Standards and Technology Gaithersburg, MD 20899-8900, July 2001
7. Dwornik B. (a), *Raport: Multimedia w Internecie*, November 2011, interaktywnie.com
8. Dwornik B. (b), *Raport: Wideo w Internecie*, June 2011, interaktywnie.com
9. Ellis J., *Seeing Things: Television in an Age of Uncertainty*, London, I.B. Taurus, 2000



10. Fink M., Covell M., Baluja S., *Social- and Interactive-Television Applications Based on Real-Time Ambient-Audio Identification*, Center for Neural Computation, Hebrew University of Jerusalem, Google Research, Google Inc., 2008
11. Frank A., McGuire M., *Hype Cycle for Emerging Technologies: Interactive television*, Gartner Research, ID Number: G00205757, 2011
12. Frank E., Research VP, Media IAS, *TV 2.0 – Technology and Impact*, NABA Washington D.C. June 4, 2009
13. Gawlinski Mark, *Interactive television production*, Elsevier Science, 2003
14. Hansen V., *Interactive Television Design*, Designing for interactive television v 1.0 BBCi & Interactive tv programmes, 2005
15. Jaskiernia A., *Publiczne media elektroniczne w Europie*, Oficyna Wydawnicza ASPRA-JR, Warszawa 2010
16. Kim W.Ch., Mauborgne R., *Strategia błękitnego oceanu*, MT Biznes, 2005
17. Lugmayr A., Niiranen S., Kalli S., *World of Digital Interactive TV*, [w:] *Digital Interactive TV and Metadata*, Future Broadcast Multimedia, Springer, 2004
18. Lougos C., Vassilopoulou K. and Vrehopoulos, A., *Interactive Digital TV services - Viewer's Perceptions*, *eBusiness and eWork Conference*, Prague, 2002
19. Lytras M, Lougos C., Chozos P., Pouloudi A., *Interactive Television and e-Learning Convergence: Examining the Potential of t-Learning*, Athens University of Economics and Business, Greece Department of Management Science & Technology, 2002
20. Maad S., *The potential and pitfall of Interactive TV Technology: An Empirical Study*, Fraunhofer, Institute For Media Communication (IMK) Germany, 2011
21. Olko J., Fatyga R., *Wdrażanie systemów telewizji interaktywnej – aspekty techniczno marketingowe*, Instytut Telekomunikacji i Akustyki, Politechnika Wrocławska, Wrocław, 2011
22. Petrushin V.A., *Hidden Markov Models: Fundamentals and Applications Part I: Markov Chains and Mixture Models*, Center for Strategic Technology Research, Accenture, 1997
23. Piskorski M. J., *Social Strategies That Work*, Harvard Business Review, November 2011
24. Pounder J., Richardson L., Mindshare, *Comscore & BARB*, Future of Television, 2011
25. Salil D., Pankaj A., Biyani R., *To the Cloud: Cloud Powering an Enterprise*, McGraw-Hill Publ., 2012

26. Ślęzak P., *Pola eksploatacji utworów audiowizualnych*, Bydgoszcz 2005
27. Swann P., *TV dot Com: The Future of Interactive TV*, New York: TV Books, 2000
28. Tellenbach M., *Merger of the "n" platform with Cyfra+ by the end of Q3*, press release dated 11.05.2012 r., wirtualnemedi.pl,
29. Van Dijk J., De Vos L., *Searching for the Holy Grail*, New Media & Society, Vol 3:4, 2001
30. Venturini F., *Bringing TV to life*, Issue II, the race to dominate the future of TV, Accenture, 2011
31. Wierzchowska J., *Raport Bloomberg Businessweek Polska: Rewolucja TV*, Bloomberg Businessweek nr 05/2012, 5-18 marca 2012
32. Withnell J., *Interactive TV Services for IPTV*, Long Dog, 2006

### **Research reports**

1. e-Media Institute, *Web-TV Intelligence & Strategies: Performance of broadcasters channels*, 03.03.2011
2. Forrester Research, *The European Three-Screen Audience Is Growing, But TV Still Reigns*, 22.04.2010
3. Gartner Industry Research, *Two roads to TV 2.0*, 24.03.2009
4. Gartner, *Emerging Technology Analysis: Broadband-Connected Televisions*, Consumer Technologies, 23.09.2010
5. Gemius i Onet, *Audio i wideo w sieci*, January 2011
6. Interactive Advertising Bureau (iab), *Platform Status Report: Interactive Television Advertising Overview*, 2010, s.17
7. European Parliament (EP), *Proposal for a Directive of the European Parliament and of the Council Amending Council Directive 89/552/EEC on the coordination of certain provisions laid down by law, regulation on administrative action in Member States concerning the pursuit of television broadcasting activities*, *Official Journal of the European Union*, 18.12.2007
8. Polska Izba Komunikacji elektronicznej (PIKE), <http://www.pike.org.pl/>, data for 3Q 2011
9. Roland Berger Strategy Consultants, *Video-Endgame. think:act Content. Fresh thinking for decision makers*, 17.01.2012