

# **SEARCHING FOR THE HOLY GRAIL**

## **Images of Interactive Television**

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### **1. Introduction**

'What is interactive in interactive television?' That is the crucial question in this article. Presently, neither social and communication scientists nor professional suppliers of interactive television (ITV) are able to give a clear answer to this question. Common everyday meanings of interactivity and television prevail. In the mean time a number of communication scientists have started a laborious and still not very successful operationalization of the concept of interactivity. Professional suppliers of ITV usually do not have any motivation to make to such academic conceptual distinctions. They are looking for applications, on this occasion desperately seeking for a feasible business model of ITV. Their faith in the opportunities of this medium of the future is strong. Compared to this, their visions of both the concept and the applications of interactivity are weak and unclear. So, the quest for the meaning of interactivity by both communication scientists and ITV professionals resembles the hunt of medieval knights for the Holy Grail, a cup or platter supposed to be used by Christ at the Last Supper, an object they also did not know what it looked like exactly.

This article starts with a short summary of the most common definitions of interactivity in social and communication science. Then we move to the beginnings of our own operationalization, a number of indicators of this concept. This proved to be indicative in the construction of a questionnaire filled in by 74 international experts of ITV. They were asked for their images of current and future ITV and they had to explain the source of these images. The following sections contain a summary or the most important results. The images of ITV appear to be substantially different among television producers of ITV and Internet producers of ITV. Subsequently, the contours of a potential business model of ITV are sketched by the description of a number of options businesses have to choose from. At the end of this article the sense of reality of these images is assessed by means of preliminary experiences with interactive applications for TV and commentaries made by media experts.

### **2. Interactivity in social and communication science**

It is remarkable how bad the concept of *interactivity* has been operationalized in communication science, the actual inventor of the concept and amply using it, for instance in extensions to or alternatives for the classical sender-message-receiver

model and in the understanding of the new media. The concept is remarkably young. Communication science introduced the concept as a conjugation of the term *interaction* in sociology and social psychology. Likewise, these disciplines have barely explicated this concept either. The most far-reaching attempts came from action theories like symbolic interactionism and theories of group dynamics. A number of distinguished sociologists and social-psychologists gave their definition in the *International Encyclopedia of the Social Sciences*, edition 1968. Here one is able to read that a process of actions by actors guided by rules and symbols and occurring in a social system is the central point of departure (Parsons, 1968: 434). So the concept belonged to models of action or behaviour, sometimes completely operationalized like in Bales' interaction process analysis. In the sociological and social-psychological definitions of interaction communication is an integral part of action or behaviour.

In communication science the concept interaction – notably replaced by the term *interactivity* – is a special part of communication. Communication scientists are referring to forms and patterns of communication that are not interactive, such as the traditional press and broadcasting. This inversion can be explained by the adoption of the most common object of communication science: the study of communication means. Though it observes these means both in mediated and face-to-face communication, the prominence of media has always remained dominant in this discipline, particularly when it deals with interactivity. Most often the question is whether particular media are interactive. Many definitions of the concept in communication science are a supplement to the sender-message-receiver model. A feedback or reactions by receivers are added. In this way definitions of interactivity remain in the confines of the *transmission model* so characteristic to most of communication science. This also applies to one of the most popular definitions of interactivity in communication science, Rafaeli's: "Interactivity is an expression of the extent that in a given series of communication exchanges, any third (or later) transmission (or message) is related to the degree to which previous exchanges referred to even earlier transmissions." (Rafaeli, 1988: 111).

Jens Jensen (1999) has made an excellent account of the laborious search of social and communication scientists for a valid operationalization of interactivity. From this account it appears how much communication science sticks to media and the transmission model. Jensen himself proposes to take the information traffic patterns of Bordewijk and van Kaam (allocution or transmission, consultation, registration and conversation) to assess whether particular media are interactive. He proposes to make a conceptual separation between the sociological concept of *interaction* dealing with action and the communication-scientific concept of *interactivity* to be reserved for mediated communication. With all our respect for the conceptual clarification made by Jensen we have to say that we fundamentally disagree with his proposal. In this article we argue for a *contextual model* integrating a sociological, social-psychological and communication scientific definition of interactivity. This model fits to an alternative approach in communication science not primarily defining communication as transmission but as a symbolic process of actors continually producing, reproducing and transforming reality (Carey, 1989). Hansen, Jankowski and Etienne (1995) have extended this approach to the start of a very promising conceptualization of interactivity also appropriate for an understanding of the new

media. To them interactivity concerns the construction of *mediated environments* experienced by users sharing information. These environments should not be reduced to the medium of transmission or processing used. They argue for an integration of face-to-face and face-to-interface communication in concrete social environments. Unfortunately, they have made no further development of this conceptualization.

What criteria should a concept of interactivity have to meet to enable the analysis of new media like interactive television? First of all, it should be appropriate for a *plurality of kinds of interaction and communication*:

- 1) human-human interaction (face-to-face communication),
- 2) human-medium-human interaction (mass communication and telecommunication, a.o. computer-mediated communication),
- 3) human-medium interaction (a.o. human-computer interaction).

This integration is required because increasingly social reality will combine virtual and organic, mediated and face-to-face environments. In the last decades the tradition of mass communication in communication science already has been challenged by approaches of the so-called active receiver in everyday environments. They have to be extended with a broad approach of user contexts in both old and new media.





Such a broad approach just has to contain *more dimensions*. Jensen describes how every subsequent operationalization of the concept has resulted in a growing number of dimensions.

In the third place the concept has to be appropriate in describing a *process*. In every definition of interaction and interactivity there is some sequence of communicative actions.

Finally, the concept should produce criteria helping us to assess whether a particular communication or the use of a particular medium is more or less interactive. This is needed to compare different forms of media and communication by means of instruments able to measure interactivity in the final stage. Jensen also describes that a growing number of definitions distinguish between *levels of interactivity*.

Van Dijk (1991/1997, 1999) has offered the beginnings of a conceptualization of interactivity that might be able to meet these conditions. He defines four levels of interactivity (two-sided- or multilateral communication, synchronicity, control and understanding) as dimensions of space, time, behaviour and a mental dimension respectively. These levels are supposed to be cumulative both within and between levels. For example, there is no synchronicity and control without two-way communication, and there are different levels of control and understanding in their own right. In the investigation reported here this definition has been specified in a number of indices or indicators. In subsequent research these indices will be operationalized in measuring instruments appropriate for the social context and the particular medium concerned. In the investigation described here they were converted into questions about the interactivity of ITV. These indices are supposed to be suitable for both face-to-face and mediated communication, for instance both the interactivity of a working group at the university and a service on the Internet. Taking this direction it will appear that face-to-face communication is not by all

means more interactive than mediated communication. This is the *face-to-face bias* of many communication theories (Van Dijk 1991/1997,1999). Table 1 contains the result of making these indices of interactivity. There is not enough space here to fully explain them. But we do have the opportunity to illustrate the indices by means of the first images and designs of ITV, the prime subject matter of this article.

DIMENSIONS	INDICES	
<b>1. MULTI-LATERALNESS</b> <i>(spatial dimension)</i>	a. number of <i>actors</i> in the communication as a limited set of communicative acts (at least two actors) b. number of <i>actions</i> in the communication (at least two) c. number of <i>turns</i> in the communication (action, reaction, reaction to reaction etc. (at least 1 reaction) d. <i>distribution</i> of the <i>number</i> of actions in the communication (1-1 until n -1; unequal → equal; at least 1 action of each actor) e. <i>distribution</i> of the <i>size</i> and <i>quality</i> of actions in the communication in signs or codes (e.g. bytes) and kinds of data (images, sound, text, numerical data)	
<b>2. SYNCHRONICITY AND SPACE OF TIME</b> <i>(time dimension)</i>	a. the number of time units <i>between a turn</i> (from 0 until n; from synchronous to asynchronous) b. <i>distribution</i> of the <i>size</i> of actions in the communication in time units (at least 1 time unit)	
<b>3. CONTROLLING ACTION</b> <i>(behavioural dimension)</i>	a. degree of equality in choosing <i>turns</i> in the communication b. degree of equality in choosing the <i>time, speed and continuation</i> of the communication c. degree of equality in choosing the <i>form and content</i> of the communication d. degree of equality in choosing <i>changes</i> in the form and content of the communication	
<b>4. UNDERSTANDING ACTION</b> <i>(mental dimension)</i>	a. extent of understanding the <i>meaning</i> of actions of other actors (from minimal to complete) b. extent of understanding the <i>context</i> of actions of other actors (from none to complete) c. speed of <i>adaptation</i> of understanding (a. and b.) with changing meanings and contexts	

**Table 1: Index of the concept of interactivity with four levels**

1. *Two-sided- or multilateralness.* A primary definition of ITV is television activity in two or more directions. At least two actors and two actions are involved: a supplier or sender transmits signals and a user or receiver returns signals in this way becoming a sender himself or herself. The number of turns varies and depends upon the number of choices the user can make (like programmes, additional information, camera angles etc.). However, in current designs of ITV the distribution of the number of actions and their scope are unequal. The channel outwards is much broader than the return channel. This particularly goes for the image of ITV the people from the television world appear to have (see below). Programme supply only becomes more extended because additional choice options are offered. Opposed to that the viewer or user only gets a narrow return channel consisting of signals of menu choice, potential e-mail reactions and perhaps a limited audio or video file.
2. *Synchronicity and space of time.* All social and communication scientists agree that the immediate succession of action and reaction reinforces interactivity. Asynchronous communication like in using answering devices or e-mail easily leads to a rupture of interaction, a lesser grip on it or misunderstandings (corresponding to the two levels of interactivity described below). ITV is a fairly synchronous medium. Users see their choices are met relatively fast and they are able to give feedback immediately. However, the supplier keeps taking up a far bigger part of the total time of interaction than the viewer or user. Receiving ITV the viewer or user is engaged much longer with perceiving the programme offered than with his/her own potential contributions to it. With this observation we move to the behavioural dimension of interactivity.
3. *Controlling action.* The extent of control of the (inter)action process by people is the most important dimension of interactivity in communication science. So much is clear from Jensen's overview. His own suggestion to take patterns of information traffic as a point of departure also belongs to the dimension of control as these patterns deal with the central or local control of information exchange. The importance of the dimension of control in communication science can be explained by the central role of media characteristics in this discipline. However, control of action is just as well a characteristic of face-to-face communication. When we turn to ITV we see the user deciding about turns and actions in communication (choice of programmes and subsequent selections) be it within the scope of supply. In addition, the user sets the time, speed and continuation (linear or not) of communication. These features are most common in current descriptions and images of ITV. With all these opportunities of choice the supplier keeps defining and producing the overwhelming part of all forms and contents (programmes, menus). The same goes for potential changes in forms and contents offered after the reactions of users. It is true, however, that supply can be adjusted following the signals of viewers or users. These signals can even be included into it, for example in the shape of home-made video and audio.
4. *Understanding action.* The level of understanding interactors are able to derive from actions and to locate against a background of experiences and circumstances (context) is the most important difference between face-to-face and mediated communication (Suchman, 1987). If one considers ITV as an instance of human-

medium interaction, interactivity will halt at this fourth and highest level. Unless one is very confident about the level of contemporary artificial intelligence one has been able to incorporate in ITV. First designs of ITV as human-medium-human interaction, for instance by exchanging self-made videos, do offer some opportunities for mutual understanding and the intelligibility of environments. However, as the number of actors involved in this kind of ITV, sometimes called 'personal TV', 'me-TV' or 'Webcam-TV', is large, mutual understanding can't be big. Here 'users', themselves becoming producers, still do not know the background of production and programming of the organizing suppliers. The other way round, these suppliers have a lack of knowledge of the precise meanings and contexts of 'users'. As a matter of fact, audience research reaching the level of the individual user is an important motive for the supply of ITV trying to boost pay TV and e-commerce. But the measure of mutual understanding actors have in human-medium-human communication like using the telephone is unequalled. The contents of supply, that is the substantial programme, are not immediately adapted to the signals of individual users. Only when identical signals of many viewers or users come forward the *menu* of choice might be changed.

## **2. Images of interactive television among producers**

In the summer of 1999 a list was compiled of 165 American, Asian and European companies engaged with the development and supply of ITV. The most important ITV experts of these companies were approached with an electronic questionnaire. They were able to return this questionnaire as an attachment to an e-mail message or as a HTML form to the website of our university department. Seventy-four companies (45 per cent) responded, unfortunately mainly European ones, 46 addressing the website, 26 using e-mail and 2 returning a printed questionnaire. With most other companies the request did not reach the right person or the potential respondent explained to have a lack of time. The group of respondents comprised 15 American, 3 Asian and 56 European companies.

The experts received a large number of questions about:

- their company and its supply of ITV,
- the target group of consumers,
- the source of information for their image of ITV,
- their definition of interactivity and the future of television,
- the business model of ITV they were looking for.

The companies concerned were classified in the following categories:

1. Television producers also producing ITV (n=14),
2. Television producers developing programmes and services for ITV only (16)
3. Interactive media developers for more channels: Internet, CD-Rom, ITV (18)
4. Internet developers expanding their activities to ITV (6)
5. Access providers also involved in developing programmes, services and navigation systems (7)
6. Hardware suppliers of ITV also involved in producing 'content' (4)
7. Consultant agencies on the field of ITV (9).

Under these categories a clear divide can be made that we also observed in the answers of the company experts. One of the most striking results of this investigation is that company experts engaging with ITV from the television producing sector think quite different about the future of ITV than experts among Internet producers of ITV. The seven categories listed above could be reduced to two classes to be abbreviated as ‘television producers of ITV’ (n=31) and ‘Internet producers of ITV’ (n=41). The first class comprises categories 1 and 2 and a part of 6 and 7; the second class is filled with categories 3 and 4 and a large part of 5. Two consultant agencies could not be classified and they were discarded in all analyses dealing with comparisons between television and Internet producers.

The responses to the direct question of ‘what is interactive in interactive television’ were remarkably unclear. Many respondents called interactivity an abstract term, though they use it all of the time. For any definition of it they prefer to talk about applications. In the answers the expression freedom of choice for viewers or consumers predominates. This freedom is assessed differently, from total freedom to decide what happens to an opportunity to react to and to choose from content supplied. Typically, one part of the respondents keeps using the term *viewer* while the other part shifts to the term *user* talking about ITV. The first part mainly comes from the sector of television production while the other stems from Internet production. The first part also reveals a less far-reaching interpretation of the freedom of choice by viewers than the last part does of the freedom of ITV users. The answers are presented in the following table.

ACTOR INDICATION	ACTIVITY INDICATION	ACTIVITIES	INTERNET-PRODUCERS OF ITV (n=41)	TELEVISIE-PRODUCERS OF ITV (n=31)
‘Users’	‘Exchanging’, ‘Interacting’	Communicating	( 6 ) 15%	( 1 ) 3%
	‘Acting’	Searching and producing information	( 13 ) 32%	( 6 ) 19%
	‘Reacting’	Choosing from menus and making transactions	( 21 ) 49%	( 22 ) 71%
‘Viewers’	‘Zapping’	Choosing programmes and channels	( 1 ) 4%	( 2 ) 7%

**Table 2. Continuum of indications of interactivity in ITV by Internet and TV-producers**

When the two highest and two lowest levels are counted together to form a 2 x 2 table, which is reasonable according to the argument here, the association is significant at the 0.03 level ( $\chi^2$ :  $\phi$  and Cramér’s V are both 0.245). Total valid n = 72.

### 3. Images of the market for ITV

As the producers of ITV are desperately searching for a successful business model of ITV, and prefer to talk about concrete applications instead of the concept of interactivity, it appears to be important to look at the applications they are thinking about. They may be classified under the following twelve series to be shortly explained here. At the end of this article they will be summarized in a table (see Table 6 below).

The first series of applications actually are features of *digital* television, a term to be distinguished from interactive television as digital television might just be traditional television with only another kind of transmission and more options in channels and programmes. Nevertheless, some respondents call these applications interactive because the viewer is able to make a better and faster choice between channels and programmes. *Conditional access systems* (in set-top boxes or other decoders) enable a choice between existing or new (extra) supply, most often by paying for it. As a very important aid the viewer acquires *electronic programme guides* and other means to navigate between an explosively increasing supply. Before long viewers will be able to programme their own personal television night in this way. For this purpose they can also use *decoder VCRs*. Actually these decoders are computers with a large hard disk and software able to record specific programmes and to play them at a freely selected time and a particular order.

The next series of applications presupposes that the viewer returns a signal, for instance by placing an order or making a choice within a programme. Here one gets two-way communication anyway. A well-known case is *video-on-demand*. A bit more spectacular are applications enabling the viewer *adaptations* within a particular supply. Examples are the choice of camera angles, zooming, replay, different length and depth of item display (for instance a summary of a sports game in one or ten minutes) and even the choice of a particular plot or narrative in a film or soap programme. The offer of *additional channels* for more information about or around programmes, including advertising programmes, is one of the most frequently mentioned applications with ample experimentation, even on current TV channels. Increasingly additional digital channels are offered, for instance filled with repeats, and references to websites for more information or for replies to advertisements. One expects these channels to become important supplements for commercials on TV and for the exposition of e-commerce among a mass audience. E-commerce is considered to be one of the most important sources of finance for ITV.

With the next range of applications it is presupposed that the signals of viewers also have a more or less direct effect on the substance of supply. Viewers are able to participate in quizzes and other games or in questionnaires on TV. These offerings remain largely or wholly pre-programmed. This is not necessarily the case when viewers are able to *react to or comment on* programmes using e-mail or video and audio messages. A question remains whether these contributions are incorporated in the broadcasting or narrowcasting programme. Therefore the logical sequel in this series is the *production of own programmes*, yes even own channels – cf. current audio-visual websites- by users that may now be justifiably called producers themselves.

In the twelfth and last application to be mentioned here two-way traffic turns into multilateral traffic. Here a channel is produced, or an existing additional channel is

used to communicate about programmes or to exchange contributions. These practices are on the rise on the Internet. Similar applications in the context of ITV are virtual communities of particular television programme fans, first of all soap series. For instance, in the Netherlands the 'reality soap' series *Big Brother*<sup>1</sup> on television was accompanied by a virtual explosion of websites and viewer communities on the Internet. Other examples are simultaneous discussions on television and the Internet.

Well then, a striking result of the expert questionnaire was the observation that respondents of the television production sector usually mentioned the first series of applications described above while respondents of Internet production companies preferred to call the last ones. Perhaps it is no surprise that both groups have their own current users in mind trying to project the perspectives of their medium into the future. Still, these respondents are really very straightforward in extending current usage to future applications of ITV they have in mind. Television producers are defining ITV as an extension of current TV with a number of additional facilities. They will allow the viewers more choices of all kinds and the suppliers new chances for commercial television, primarily pay TV, direct marketing and e-commerce. On the other hand Internet producers are thinking that the many innovative applications of their network of networks will directly appear on TV and acquire a much bigger audience. According to their view these applications would make television viewers much more (inter)active and transform them into users and producers of audio-visual programmes or into more active participants in electronic commerce by making continuous price comparisons and by offering products themselves. The 'couch potato' image or stereotype of the present television viewer is blamed to the current offer of 'passive' television. With the advent of ITV this will turn into a more active attitude.

Both groups of respondents are very optimistic about the future mass character of the ITV market. Mass character could be achieved in a relatively short time among the average population. Most respondents expect ITV is really going to run in a period of 1-3 years and will acquire mass character within five years. Only the kind of consumers coming first is viewed differently. About one half of respondents expects the average television viewer in families will adopt ITV right from the start. The other half thinks individual young viewers and experienced computer users will come first. The last ones presume that the introduction of ITV is a *learning process* affecting some before others.

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<sup>1</sup> This was an experimental programme on Dutch TV (Channel Veronica) at the end of 1999. A group of young people unknown to each other was invited to stay in a closed house for three months and watched 24 hours a day with cameras. They could act as they wanted, but they were submitted to a popularity contest as viewers could choose who should leave the house until one person remained. The programme with audience ratings of more than 20% was accompanied by countless websites with more information and opportunities to chat in viewer communities. This formula was sold immediately to other broadcasters in the world.

#### 4. Images of future television

Even more conspicuous is the observation that the responding producers of ITV have no clear image of the future of television as such either. One does not know which programmes and kinds of applications will prevail. The image of future television is mainly marked by the future of *technology* used: the question whether television and the Internet will converge technically speaking. Almost two-third of respondents (63 per cent) finds the Internet and television will converge, while one-third expects them to remain distinct channels. A majority of television producers of ITV think it will concern set-top boxes on top of or inside television sets. Internet producers of ITV are less oriented to the television device. They think television will increasingly be received on a PC or by multifunctional home connections and screens. See Table 3.

PLATFORM OF ITV INTRODUCTION	TV- PRODUCERS OF ITV	INTERNET- PRODUCERS OF ITV	TOTAL
Set-top box, first on and later in the TV set	18 (67%)	14 (40%)	32 (52%)
PC becomes TV	2 (7%)	9 (26%)	11 (18%)
Set-op box ánd PC's: multiple platforms	7 (26%)	12 (34%)	19 (30%)
TOTAL RESPONSE	27 (100%)	35 (100%)	62 (100%)

**Table 3 Main platforms for the introduction of ITV according to TV- and Internet-producers of ITV**

The association is significant at the 0.07 level ( $\chi^2$ :  $\phi$  and Cramér's V are both 0.293).

#### 5. Images of user contexts

In the contextual model of interactivity advocated in this article the channel (transmission) is less important than the social context of the interaction concerned. Therefore we have asked the producers what kind of image they have this context. It is familiar that new media designers often neglect user contexts (see Van Dijk, 1999, p. 74-77). They put insufficient attention to the 'domestication' (Silverstone & Hadden, 1996) of their new medium in the home and other user contexts. The term context acquires at least two meanings here: the spatial context of use of ITV and the social context of companionship. Concerning the home as the user context a majority (64 per cent) thinks that ITV will be used or viewed in the living room. A quarter of respondents expects a multifunctional use in all rooms of the home. A minority (11 per cent) anticipates a shift to the study or other individual rooms. The social character of using or viewing reveals a bigger spread of answers. Twenty per cent thinks ITV will be viewed or used alone, 42 percent in company and 38 percent in both social contexts. Combining the answers to the two questions concerned and splitting them among television and Internet producers of ITV one obtains the distribution in Table 4.

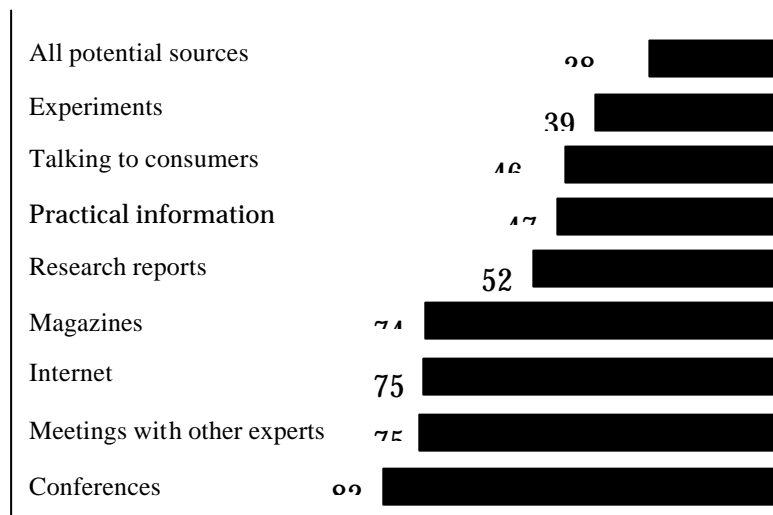
<b>USAGE PLACE</b>	<b>ALONE 20% (14)</b>	<b>TOGETHER 42% (27)</b>	<b>BOTH 38% (25)</b>
<b>STUDY OR OTHER INDIVIDUAL PLACE</b> 11% (8)	<p>TV 4%    Internet 18%</p> <p><b>TOTAL: 11% (8)</b></p>	<b>TOTAL: 0%</b>	<b>TOTAL: 0%</b>
<b>LIVING ROOM</b> 64% (41)	<p>TV 7%    Internet 5%</p> <p><b>TOTAL: 6% (4)</b></p>	<p>TV 48%    Internet 36%</p> <p><b>TOTAL: 42% (27)</b></p>	<p>TV 22%    Internet 10%</p> <p><b>TOTAL: 16% (10)</b></p>
<b>ALL ROOMS</b> 25% (13)	<p>TV 4%    Internet 3%</p> <p><b>TOTAL: 3% (2)</b></p>	<b>TOTAL: 0%</b>	<p>TV 15%    Internet 28%</p> <p><b>TOTAL 22% (15)</b></p>

**Table 4: Expected place and kind of social use of ITV according to TV and Internet producers of ITV in valid percentages (absolutes between brackets).**

As there are too much empty cells in this cross-tabulation statistics of association could not be made. Column N= 62 and Row N= 52. Others: no answer to one or both questions.

## 6 The sources of the images of ITV

The questionnaire contained a number of questions about the sources of the images of ITV among producers. The answers disclose a mixture of rational thinking (extending media developments, for instance media convergence), observation (market research, experiments, own experience of ITV), intuition (the feeling that ITV is the medium of the future) and personal values (enthusiasm about promising applications). Specifically, the sources displayed in Table 5 were mentioned.



**Table 5: Sources of images of ITV mentioned, in percentages**

Noticeable in Table 5 is the observation that information about facts and promises of ITV is derived much more from people in ones own set (acquired in meetings and publications) than from empirical or market data. This is a well-known characteristic of emerging and persevering hypes or other exaggerated expectations of the future. Every kind of search for a Holy Grail involves a certain passion. Perspectives stay alive because people talk themselves into believing them.

Half of all respondents argues that there is a lack of research on matters of ITV. Almost half of them confess that they do not test, or barely do so, before they offer particular applications of ITV on the market. One third of respondents explicitly acknowledges that they go on their own experience, trail and error or intuition. Twenty three percent claims trail and error is the best way to discover what are the market opportunities of ITV.

## 6. Components of a business model for ITV

In spite of these uncertainties, to be listed more fully in the next section, one keeps desperately searching for a feasible business model for the supply of ITV. After all, such a model requires at least a number of certainties. Moreover, it has to be based on clear desires, plans and directions because ITV is a multifunctional medium with very diverging potential applications, as we have observed above. Which options are

most likely to prevail? From the expert answers it appears that at least the following options will be part of any business model of ITV.

A first component of any business model concerned is a particular *orientation to media development*: for instance, a hardware or a software orientation. Traditionally, most attention in a technologically driven environment goes to the platform, the connection and the equipment required, in this case whether it will be enhanced TV, enhanced PC or TV-PC convergence. However, ITV businesses have soon discovered the strategic importance of getting the right and winning conditional access and navigational systems. Subsequently, orientation has clearly shifted from this kind of software to the development of so-called 'content' for ITV. In our investigation *content* was the most frequently used term. This multifaceted term acquired an almost mythical meaning. As the contours of potentially successful contents of ITV couldn't be particularly well clarified by the respondents, looking for Content might be the most impressive case of searching for a Holy Grail.

A potential solution is an *orientation to particular applications* as it is required in any business model. From our investigation it appears that television producers of ITV keep orienting themselves towards applications familiar to current television behaviour. These are applications enabling viewers a better choice among and within the steeply growing number of channels and programmes (see Table 6 below). They mainly concern additional facilities. Producers ardently hope this choice behaviour will be converted into transactions both in ordering programmes and in buying other goods and services (electronic commerce). Internet producers of ITV are looking for more advanced applications they developed earlier for websites trying to provide a mass audience for them. Most of these applications enable users to search and produce information themselves and to communicate about the results with other users. In this way they will be able to make their own contributions to programmes. Moreover, they would be capable of building communities of viewers and consumer organizations.

A small part of the respondents is searching for applications that are completely new. Most of these applications are on the cutting edge of television and the Internet. A typical example is the Dutch soap series called *Big Brother* (see above). This series opened up a new television genre ('*reality soap*'). In parallel a large number of very frequently visited websites for communities of fans to the series were created. In future ITV this kind of channels and applications will be integrated much further to create hitherto unknown applications.

A third component of any business model attaches particular *expectations of user behaviour* to applications concerned. In this case the crucial question is whether television viewers want to be more interactive, in whatever meaning of the term. From the questionnaire among ITV experts it clearly comes forward that Internet producers expect higher levels of interactivity than television producers. The last called are orienting themselves to applications only offering viewers menu choices, opportunities to react and transactions. See Table 6 below.

A fourth component is the *market perspective* used. The central perspective of the large majority of respondents clearly takes a supply-side view construed from the technical opportunities of the applications offered. Reasoning from this perspective one is very confident about the future success of ITV. It is only a matter of finding

the right applications with trial and error. A minority takes a demand-side view trying to reason from the perspective of consumers. This group of respondents thinks consumers will determine the course of ITV right from the start. Here one takes a more sceptical attitude to the future of ITV. After all, the future success of ITV is not guaranteed. It is not clear yet how users or consumers will react.

A following component is the *purpose of the provider*: a public or a commercial interest. A number of public broadcasters, particularly in Europe, is very busy in developing television and information services for the Internet. Take, for instance, the British and German public broadcasters. It is already noticeable that they are directed to a supply of background information in parallel to their radio and television programmes and that they favour the production of news, current affairs programmes and documentaries. Their commercial antipodes produce a relatively bigger portion of entertainment programmes.

A last component to be mentioned here, as it recurs continually in the answers, is the *market strategy* developed. Most experts are oriented to a mass market of families, the core of the current television audience. They believe that gaining this market for ITV is attainable within a short period of time. Another part of the experts directly addresses the market sections of youth and Internet fans. For them this is a deliberate strategy because they believe that these sections will comprise the ITV mass audience of the future and because they suppose current television viewers have too much of a 'couch potato' character. Or they view this direction as a first phase because using ITV should be left the time to grow in the television behaviour of people.

## **9. Conclusions: perspectives of ITV**

### ***The convergence of the Internet and television***

From the preceding report it appears that a business model of ITV would benefit from clear concepts of interactivity and the future of television. Both are badly developed. Some anticipate a complete convergence of television and the Internet. Others think these media will remain to be distinct and separated at least partially. Especially communication scientists and television experts are sceptical about the perspectives of ITV. They emphasize that television is most often used in the company of others and in the living room at a particular distance from the screen and in a relatively passive way. The most important applications are consuming information and entertainment. Opposed to that, the computer and the Internet are mainly used individually in a study or other special room, in front of the screen and relatively (inter)active using a large terminal. Here the main applications are searching and processing information and (tele)communication.

Putting it this way one has to conclude that both media do not fit to each other and that Internet on TV, or the other way round, has no future. According to James Stewart (1998/1999), however, this stereotypic image is moving. Increasingly people, first of all young people and singles, watch TV on their own and in other rooms than the living room. Teletext on television, all kinds of other additional channels and telephone or e-mail replies promote a more active, information retrieving and opinion giving television behaviour. On the other hand, the usage of PCs and the Internet shifts to more collectively used interfaces, for instance young people playing a computer game together, and to other rooms and places (laptops in the living room

and in transit). Here audio-visual and entertainment applications are getting more important. And surfing on the World Wide Web largely is a relatively passive activity of viewing and fragmentary perception as well, to be compared to zapping channels on TV.

If these trends continue a convergence of the Internet and television is much more likely to happen. Furthermore, it has to be observed that the major part of innovations in the field of interactive services comes from Internet producers and not from television producers. So convergence is likely to be characterized by models and interfaces developed on the Internet. However, an important conclusion of our investigation is that technological convergence does not have to mean social convergence or a fusion in the daily use of the media concerned. We have strongly emphasized that technological convergence is no social convergence or a merger in daily use. From this perspective the current tendency of a continuing differentiation of interfaces matching particular interactive services to different applications, needs and user contexts is to be explained. Putting it this way, one is able to predict that television and Internet uses as we know them will develop numerous cross lines and applications to be sure, but that they will also remain largely or at least partly separate in daily uses.

### ***Uncertainties***

Current perspectives of ITV are marked by large uncertainties and risks (Chalaby, 1999, Jensen and Toscan, 1999). The complexities of the practice of this new medium are huge. They are derived from a combination of three systems all of them still open and liable of change in all directions: a technological, economic and social-cultural system.

The *technological* system of ITV can only become successful when a) it can be introduced on a large scale, b) it will prove to be very user-friendly and c) it will offer a clear and decisive surplus value as compared to current television and audio-visual computer media. None of these conditions has been satisfied at the moment. It is still uncertain which platform ITV will use predominantly. There are at least four possibilities: 1. two-way cable TV, 2. telephony connections (e.g. using ADSL), 3. digital satellites and 4. terrestrial digital broadcasting. Moreover, it is not yet clear which kind of services (digital television broadcasting or web-services), which protocols (TCP/IP, ATM or other) and which conditional access models will prevail. Finally, there are still several American and European standards of digital television competing for hegemony.

The *economic* system of ITV completely depends on its commercial achievement in a fairly short term. ITV demands huge investments with doubtful returns. In the television business one still waits for the breakthrough of pay-TV. It has already lasted long, particularly in Europe. Looking at the Internet we have to conclude that few services are profitable. The consumer is spoiled by the current supply of television and the Internet. Most additional services looking like applications of ITV are for free or very cheap: teletext, information websites, MP3 (music), games and the like. The most important source of earnings on TV, advertising, heads towards a very uncertain future in the context of ITV. The most likely result of these facts is a fairly slow evolution of ITV from current systems and environments. To start with, current analogue television systems will be transformed into digital systems at the expense

of consumers (equipment, subscriptions and other fees) and advertisers. The investments for innovations of ITV services on the Internet will have to be funded by investors on the stock markets. Presently, the astounding willingness of investors on the stock market to fund Internet companies is the only good news for ITV as an economic system.

Just as insecure is the future of the social-cultural system of users that will have to domesticate ITV in their daily environments (Silverstone and Hadden, 1996). This has been emphasized in this article. User contexts still play a minor part in the technical, economic and substantial designs of ITV. Not much is known about them. Yet we do know from media history that the weary daily use of media does not change very fast. After some time, users appear to be able to redesign and redefine the designs and usage styles of a new medium offered according to their own needs. From the responses collected in our investigation it appears that most producers of ITV have no idea how users might define or redesign this new medium.

Presently, consumers use and understand television and computers or the Internet as completely different media (see for example the survey in Germany of the ARD-Forschungsdienst, 1999). It is safe to assume that the adoption and incorporation (domestication) of ITV in the home and other user contexts will take a decade and presumably even more. In this time span many cultural differences will appear, like those beginning to appear between on the American, European and Asian markets of ITV and Internet use (see IP-Group, 1998).

### ***Is there a need for more interactivity in viewing and using television?***

Ultimately the most insecure factor is the answer to the question whether television viewers have a need for interactivity in their relationship with this medium. A definite conclusion of television audience research is that there is a need for a relatively passive viewing behaviour anyway (see for example Lee & Lee (1995), Heuvelman and Peeters (1999) and ARD-Forschungsdienst). A significant proportion of present viewers has no need for interactive services in using their TV. Those who do have this need reveal particular social and personality characteristics. Heuvelman and Peeters observed a relatively small interest in ITV conducting a 1996 telephone survey in the Netherlands, though the appeal of ITV was somewhat bigger for young people and people with low education. The more one was used to working with a computer, the lower the appeal of ITV. Knobloch (1998, 1999) detected in experimental research that users with low esteem about their own capacities, not much need to control things and a relatively small capacity of information processing are more likely to experience interactive applications of ITV as sources of stress.

According to Stewart (referred to above) the more active applications of television can be transformed into applications of ITV. In the view of experts from the sector of television production this will primarily be the applications fitting best to current television (the first two rows in Table 6 below). Experts from the sector of Internet production are already opting for applications with a relatively high level of interactivity at this moment (the last two rows of Table 6). However, in the television looking behaviour of current viewers one is able to detect an interest in both kinds of applications, from looking for better choices between programmes and channels to shaping additional channels and viewer communities on websites.

<b>KIND OF ACTIVITY</b>	<b>APPLICATION</b>	<b>LEVEL OF INTER-ACTIVITY</b>
<b>Choice of channels and programmes</b>	<ul style="list-style-type: none"> <li>• Conditional Access Systems</li> <li>• Electronic Programme Guides</li> <li>• Decoder VCR</li> </ul>	<b>0 (Digital TV)</b>
<b>Choice from menus and transactions</b>	<ul style="list-style-type: none"> <li>• Video-on-demand</li> <li>• Customization (choice of camera angle, replay, more item display, plots or story lines)</li> <li>• Additional channels (for background information or advertisement)</li> <li>• E-commerce (goods and services)</li> </ul>	<b>1-3 (ITV)</b>
<b>Searching and producing information</b>	<ul style="list-style-type: none"> <li>• Participation in programmes (directed) )</li> <li>• Reaction /commentary to programmes</li> <li>• Contribution to programmes / channels (not directed)</li> <li>• Production of own programmes/ channels ('personal TV')</li> </ul>	<b>3 (ITV)</b>
<b>Exchange/ Communication</b>	<ul style="list-style-type: none"> <li>• Communication about/in parallel to TV programmes (viewer/ user communities)</li> </ul>	<b>4 (ITV)</b>

**Table 6 The (Inter)activity of Applications in Digital and Interactive Television**

All the same, it will not be easy to let viewers get accustomed to higher levels of interactivity on or via television. Presumably, this will happen much faster among young people and experienced computer users. It is conceivable that the limited forms of interactivity currently designed by television producers just will not be satisfactory enough for them. So, perhaps the most important conclusion from the argument above might be that *interactivity has to be learned*, both by producers and consumers. Doing this all with the spirited hope that searching for this Holy Grail is worth the trouble of such a long quest.

## References

ARD-Forschungsdienst (1999). Digitales und interaktives Fernsehen: Nutzererwartungen und Akzeptanzchancen. *Media Perspektiven 1999(8)*, 430-436

Carey, J.W. (1989). *Communication as Culture: Essays on media and society*. Boston MA: Unwin-Hyman.

Chalaby, Jean K. (1999). The broadcasting media in the age of risk: the advent of digital television. *New Media and Society, Vol. 1, Issue 3*, p. 351-3

Hanssen, Lucien, N. Jankowski & R. Etienne (1996). Interactivity from the Perspective of Communication Studies. In: N. Jankowski & L. Hanssen (eds.), *Contours of Multimedia*. Luton: University of Luton Press, John Libbey Media.

Heuvelman, A. en Peeters, A. (1999). Interactieve televisie, toekomstmuziek of toekomstige realiteit? *Tijdschrift voor Communicatiewetenschap, Jaargang 27, Nr.1*, 81-91.

Jensen, Jens (1999). 'Interactivity'-Tracking a New Concept in Media and Communication Studies. In P.A. Mayer (Ed.), *Computer Media and Communication*, 160-188. Oxford: Oxford University Press. Elaborated as "The concept of 'Interactivity'" in Jensen, J. and Toscan, C. (eds.) *Interactive Television, TV of the Future or the Future of TV?*, pp. 25-66, Aalborg: Aalborg University press.

Jensen, J. and Toscan, C. (1999). *Interactive Television : TV of the Future or the Future of TV?* Aarhus: Aarhus University Press

Knobloch, Silvia (1999). *Interaktive Unterhaltung aus handlungstheoretischer und persönlichkeitspsychologischer Sicht (Dissertation)*. Hannover: Institut für Journalistik und Kommunikationsforschung, Hochschule für Musik und Theater.

Lee, B. & Lee, R.S. (1995). How and why people watch TV: Implications for the future of interactive television. *Journal of Advertising Research, 35 (6)*, 9-18.

Parsons, T. (1968). Interaction: Social interaction. In D.L. Shills (Ed.), *International Encyclopedia of the Social Sciences*, 429-440. New York: Macmillan.

Rafaeli, S., (1988). Interactivity: From New Media to Communication. In: Hawkins, R.P. Wieman, J. & Pingree, S., *Advancing Communication Science: Merging Mass and Interpersonal Processes*. Newbury Park, Beverly Hills: Sage.

Silverstone, R & Hadden J. (1996). Design and Domestication. In: Mansell, R & Silverstone,R. *Communication by Design*. Oxford: Oxford University Press.

Stewart, James (1998/ 1999). Interactive television at home: Television Meets the Internet. <http://www.itvnews.com/>. Published later in Jensen, J. and Toscan, C. (eds.) *Interactive Television, TV of the Future or the Future of TV?*, pp. 231-260, Aalborg: Aalborg University press.

Van Dijk, J.A.G.M. (1991/ 1993/ 1997). *De Netwerkmaatschappij, Sociale aspecten van nieuwe media*. First, second and third editions. Houten NL, Zaventem BEL: Bohn Stafleu van Loghum.

Van Dijk, Jan (1999). *The Network Society, Social Aspects of New Media*. London, Thousand Oaks CA, New Delhi: Sage.

Vorderer, P. & Knobloch, S. (1998). Wie erleben Rezipienten interaktive Fernsehfilme? In H. Schanze & Kammer, H.M. (Red.) *Interaktive Medien und ihre Nutzer*. Baden-Baden: Nomos