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Future trends in audiovisuals

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Abstract

The aim of this article is not to foretell the future, but rather to help us understand the present. It describes a set of current trends that will become stronger in the upcoming years and that will shape the future of the audiovisual industry. Such trends are grouped into three main areas: technological developments, consumer habits and political and economic tendencies. In the final section, the article presents an overview of a number of trends that point to the disappearance of the television set, a transformation of today's television channels and a necessary reconsideration of the public broadcasting service, which is believed to be clearly vulnerable to these trends.

Key words

Future, interactive network, asynchrony, financing, public service.

Resum

L'article pretén, més que pronosticar el futur, ajudar a fer comprendre el present. Descriu un conjunt de tendències actuals que es reforçaran en els propers anys i que condicionaran l'evolució de l'audiovisual. Ho fa agrupant-les en tres àmbits: tecnològic, hàbits de consum i politicoeconòmic. Acaba dibuixant unes tendències cap a la desaparició dels televisors, una transformació de les cadenes de televisió i un necessari replantejament del servei públic audiovisual que considera clarament amenaçat per les tendències descrites.

Paraules clau

Futur, xarxa interactiva, asincronia, finançament, servei públic.

1. Introduction

The CAC publication requested that I offer a description of the consequences of the analogue-to-digital switchover in audiovisual media and, more specifically, in television. Such a task would require me to offer an outlook on the evolution of this medium and therefore a description of the television of the future.

Before I begin, however, I must state that I do not plan to discuss this. I would not dare describe the future. From my point of view, anyone who does so is simply acting out of imprudence. Fortunately, the future is not written. If it were written and could be read, I am not quite sure what we would all be doing here.

Though the future is not written, it is indeed influenced. While many future scenarios are possible, the same does not go for all imaginable outlooks. The realities of the future will be the result of the innovative ability of people and organisations that work in a setting equipped with certain environmental conditions (available technologies, economic or political regulations, social or cultural habits, etc.). Some of these environmental conditions open up new possibilities, broaden our freedom and enable us to do things that were not possible before. Others, in contrast, limit the capacity for creativity and change and therefore hinder the effective materialisation of ideas. This distinction marks the difference between innovation and utopia. Envisioned yet impossible ideas are utopias; imagined, achievable and achieved ideas are innovations.

In this article, I will endeavour to describe some of these influential factors upon which the future models will have to be built. To explain them, I will attempt to identify them in the current background of the industry, since the trends that are happening today and taking root are the ones that will affect the future. Not everything that is happening today is important, nor will it all have the same long-term potential. Not everything that seems important today actually is. In this respect, separating the chaff from the wheat can therefore be very useful for looking into the future.

In a word, rather than forecasting the future, I have set out to help us understand the present better.

To do so, I will describe and explain three groups of trends that appear to be taking root today and which I believe will continue or become even stronger in the coming years.

Given the difficulty in clearly separating certain trends from others, since they mutually influence one another, I will group them into three general areas: technological trends, social habits, and economic and political trends. This will help my explanation, as all these trends are intricately intertwined.

This description will undoubtedly give rise to approaches applicable to the audiovisual sector as a whole. However, I

cannot neglect, nor do I wish to hide, my particular concern for the future of the public audiovisual service. As a result, in my outlook I will focus more on this aspect, given both my interest and experience.

2. Technological trends

A. Digitalisation. In other words, the use of the numerical code for the transmission, storage and processing of all types of information.

In a sense, this is the mother of virtually all the other trends. As we will see, all the following trends hinge on our progress in working with bits. The ability to encode all information into bits has transformed what was initially a technical information revolution into a social revolution in communication and information.

Rather than storing or transmitting a piece of information by means of a natural phenomenon, the digital code essentially consists of saving or transmitting the numerical measurement of such a phenomenon. As opposed to transmitting or storing a wave (sound, light, etc.), what is stored or transmitted is the numerical information (frequency, amplitude, etc.) that describes such a wave and enables it to be identified and reproduced. Digitalisation has converted all kinds of information into numerical information, which is expressed in bits.

Technological progress has incredibly increased the capacity for bit storage and transmission. In view of our virtual limitless use and manipulation of numbers and our ability to express any type of information in numerical terms, we are now in the midst of the information revolution.

B. From cable to fibre optics. For many years, the telephone cable that has reached our homes has had a capacity of several dozen Kbits per second. Though this capacity is entirely sufficient for a conversation, it is not enough to comfortably enable other uses without testing our patience – as we all saw in the early days of the internet. The use of compression technologies (such as the DSL type) have enabled us "to send bits through the same tube at a higher pressure", yet still the capacity is limited to a few Mbits per second (Mbps). Once fibre optics, which are now being used for main connections, come to all our homes, these limits will be easily overcome.

C. From the broadcasting network to the interconnected network. The last decades of the 20th century saw the coexistence of two completely different types of communication networks with opposing topologies and features.

The first is the telephone network, in which a user can connect with any other user (multipoint), and where all users can send and receive information (bidirectional) yet with a limited transmission capacity (Kbits per second, narrow band).

The second is the "television" network, in which a single point on the network transmits information to the users, who in turn can only receive information. In this network, the users cannot connect with one another and the information only circulates in one direction (point-multipoint and unidirectional). However, the transmission capacity of this network is considerable (Mbits per second; broadband).

The convergence of these two networks has given rise to the "broadband internet" network, which enjoys the advantages of both. In other words, everyone can connect with everyone, everyone can send and receive information and the capacity is large enough to send voice, text, data, graphics, images and videos. Thus, we now have a multi-point bidirectional and broadband network.

D. From silicon memory to magnetic and optical disks. Capacity to memorise bits – and therefore to store information – has increased extraordinarily. At the end of the 20th century, silicon chips took us from Kbits to Mbits. Now, external disks have taken us to Gbits, and we will soon be measuring memory in Tbits. This implies a one-billion-fold increase in capacity in only 40 years.

Bearing in mind, as a reference, that the memory capacity of the human brain is not quite one Gbit and that a 1-Tbit disk can hold the text of one million books or 500 hours of high-quality video, it is safe to say that we have surpassed all the limits of our needs. Moreover, for an absurdly low cost we can store an immense amount of memory at any point on the network.

E. From the cathode tube to the flat screen. Until recently, all screens (television and computer) were based on cathode tube technology. This technology has at least three major drawbacks. The first problem is that the tube is a three-dimensional element and requires a cubic container. In other words, the larger the screen, the deeper the depth of the box. The second limitation is that the television is extremely heavy and impossible to transport. Finally, the television has a limited range of sizes, as it is impossible to make very large – or very small – screens. Different flat-screen technologies have given rise to lightweight depth-free screens in sizes ranging from very small to increasingly larger sizes, with the advent of flexible and roll-up screens on the horizon.

This technology will make it possible to install screens everywhere and to integrate them, hide them if necessary, and conveniently transport them from one place to another.

F. From waves to cable and vice versa. For many years – the entire second half of the 20th century – telephone transmission was carried out by means of cable, while television transmission was via waves. This was rather absurd, as the telephone, which is a "personal" device, was connected to the wall by a cable. Hence the great success of mobile phones at the end of the century.

Though the situation is very different in different countries, and with varying degrees of intensity, television transmission

has progressed from waves to cable to such point that, in some areas of Europe, there is no longer a single television antenna on the rooftops.

On the other hand, small places in many buildings, commercial areas and other locations have seen a proliferation of Wi-Fi zones, where all network connections are via waves, making for remarkable savings in cable and enabling a new type of mobility.

This is leading us towards a new conception of the unified mixed network, with a predominance of cable (and satellite, yet with certain drawbacks) for distance transmission, and wave transmission for local distribution.

3. Trends in audiovisual consumer habits

All these developments allow and at times require new models of audiovisual content consumption, engendering trends that in turn gradually accelerate. This does not mean that everyone will follow them or that they will change consumer habits. Rather, it suggests that users will have a broader range of possibilities to choose how they wish to consume audiovisual products. Some will continue to be traditional consumers due to inertia or lack of information or confidence, and others will cling to the new opportunities. Undoubtedly, the younger the people, the stronger their inclination to change. Trends will eventually become mainstream although, in all certainty, diverse customs will coexist for a long time. By virtue of this fact, we must expect a far more complex and even fragmented society. It has become commonplace to speak of "digital natives" and "digital immigrants" to distinguish between those born in the digital era from those who had to immigrate from the analogue era, often with some difficulty.

A. From synchronous reception to asynchronous consumption. The members of primitive societies (before Babylonia) could only transmit information orally and by means of signs. In both such cases, to do so, the individuals had to be in the same place at the same time. The invention of writing broke the barrier of time and space, thanks to the invention of a code (letters, ideograms) and the advent of a physical storage place outside of the brain (papyrus, parchments, books, etc.). Johannes Gutenberg brought the use of written transmission to the masses, by making books abundant in number and low in cost.

Today this phenomenon is repeating itself in the field of audiovisual transmission. With the conventional television system, the viewer must see a "programme" at the time when it is broadcast. In other words, the viewer must coincide with the broadcaster in time, though not in space. Therein resides the importance of "programming" for the different channels.

Yet this requirement began to die out just as it became inexpensive to introduce bit storage at any point on the network. The letters of forty or fifty centuries ago are the bits of today, and what was once the book and written documents are now electronic memories and particularly hard disks.

The consumption of audiovisual products can continue to be *pushed* to the viewer (receiving what is sent to him/her), yet it will also increasingly be *pulled* (seeing what he/she wants, when he/she wants to).

B. From the television set to multiple screen reception. The device that enables viewers to watch television has become an integrating element within our culture. It has become so identified with its function that many people do not say "the television set" but rather "the television".

Yet that era is now over. To receive audiovisual content, the user simply needs a screen and a set of speakers. Screens and speakers are found everywhere: on the computer, on the telephone, on the GPS and elsewhere. All these items are potential television devices and, in fact, are now acting as receivers.

As a result, in the future we will be receiving "television" through many different types of screens: small and large, mobile, wall-mounted or pocket handheld screens. Moreover, at the same time these screens will also serve as other applications (telephone conversations with eye contact, viewing photographs, working with the computer, etc.).

In the near future, nobody will go to purchase "a television set", since such appliances will no longer be manufactured.

C. From the passive consumer to the interactive user. The network to which we will be connected will be an interactive and broadband network. Consumers will have the option of being both receivers and senders at the same time. Today, many highly interactive communities on the internet are offering us a glimpse of the direction in which things will progress. These networks operate based on users connected by means of a computer. For many people, the computer represents a barrier; however, as television sets become digital and the use of the PVR (personal video recorder) becomes more widespread, the computer will become accessible to many more people, particularly if PVRs are user-friendly and come with built-in electronic guides for programming and content searches.

From the perspective of television, this change will immensely increase "viewer" participation in all content. Such participation will take on very different shapes, depending on the specific features of the content (telephone calls, electronic mail, SMS, live chats, sending photos, sending news and videos, unexpected initiatives, etc.).

D. From an ostensibly free service to transparent financing. All the audiovisual media have a problem in terms of funding, as the result of a single original sin: media content is seemingly free. Clearly this is not the same throughout the media, nor does the same thing happen in every country. However, generally speaking, users are accustomed to the fact that listening to the radio, watching television or downloading content from the internet is free. Many countries have implemented a special tax

to watch television, yet here in Spain we pay for it through public funding and massive advertising.

In recent years, new forms of financing have gradually emerged: subscriber television channels, pay-per-view content, community fees, music and video shops on the internet and others. This will gradually become more widespread in all the media, better reflecting the reality of the market and helping to solve the problems stemming from content creation and production costs.

This will lead to an important question, which I will discuss later: Is public funding for audiovisual service necessary, as it is in the healthcare or educational sectors?

4. Political and economic trends

A. Increasing difficulties to finance production. The number of "channels" to access audiovisual content is multiplying at an extraordinary pace. On the one hand, the number of television channels is growing and, with the advent of DTT, the industry has fallen into the error of using the enhanced transmission capacity to increase the number of channels of each operator, rather than to offer fewer channels with higher technical quality (HDTV). On the other hand, access to content is offered through other platforms (internet, telephone operators, cable operators, etc.), often in addition to previous platforms.

Some of these channels have their own financing, as the user pays for what he/she receives by some means. However, in general, we continue to be entrenched in the free-of-charge model, both for television and on the internet, meaning that all production and transmission must be financed by advertising or public funding. I believe that both these sources have reached their limit. As regards public funding, I will take up this issue later on. At this point, I would like to express my belief that advertising will not be able to cover the costs of the production needed to satisfactorily fill the thousands and thousands of hours broadcast on the hundreds of channels that will be available to us in the forthcoming years. I have been sure of this for some years now. However, if the current property crisis, and particularly the financial crisis, reduce the levels of today's excessive and unnecessary consumption, in part caused by advertising, the effect will be even greater.

Obviously, there is a solution to this – a bad solution – that has been applied for several years now: lowering the cost of production, and at the same time lowering the quality of the product. There is no need to delve any further into this, although anyone can suppose the considerable difference in cost between an hour of a quality film or series and an hour of a gossip show in which two relatively unknown guests are encouraged by a presenter to argue about third-party hearsay or the infidelity or rumoured acts of one or the other.

B. Increasing funding difficulties for public television. In the coming years, the budgets of all the public administrations will be in dire straits. One of the causes is structural and has being going on for a couple of decades now: it is becoming increasingly impossible to combine the gradual reduction or elimination of taxes with the logical expansion in the scope and quality of public services. The second cause is the impact of the current economic situation on public revenue over a number of years (which we hope to be few).

Under these circumstances, governments will have to be highly selective in their priorities and very demanding in the cost benefit analysis of each service they fund (public health, education, social service, research, safety, audiovisuals, etc.).

I am a firm supporter of public service in the audiovisual sector. For this reason, I would like to warn of two very clear dangers that could be critical and problematic in this cost benefit analysis for public television.

As regards the cost of channels, it must be noted that, throughout Europe, the model followed by television for the past half century was not a "good model of efficiency". Some channels can partially justify their cost with their quality; however, there are many that are both expensive and mediocre. For some time now, different initiatives have been implemented to remedy this situation, some of which have been quite traumatic. Such initiatives are essential and time will tell whether they will be efficient enough. Although not everyone needs a traumatic change, everyone does need to take into account a certain principle and conviction: to survive, it will not be enough to make a good product. Rather, it will be necessary to make a good product and to demonstrate that it has been made at the best possible price.

C. Difficulties and contradictions in evaluating service. The second part of the ratio between cost and benefit involves a great hidden danger. What service does public television provide for the community? How can it be assessed? I have always upheld the view that, in order to evaluate such a service, three objectives must be borne in mind: that public television should produce comprehensive information and many different opinions, both politically and socially; that it should provide quality entertainment, and that it should help promote the local culture and language, where applicable. There seems to be a certain consensus regarding these three points, although in the future a fourth objective will need to be added: the use of television as a tool to provide other public services, such as healthcare, education and administration, and even politics.

It is the government that undertakes such an assessment in order to set priorities in its budgets. In evaluating public television, a new factor comes into play: the government's interest in using television to serve its own purposes. In terms of the benefit for the government, we have all seen and we all know of many cases of public television that clearly contravene the three objectives mentioned above – particularly the first, and often the second as well. The governments of different levels that have created them primarily seek a television channel that will serve them and their political interests. There can therefore

be a contradiction between the goals of the public service – particularly regarding that of objectivity – and the government's interests.

In the forthcoming years, where will the combination of the financial difficulties of governments and the social and political pressure towards more accurate information and greater plurality take us? Above all, how will governments behave when analysing the benefits of public service? Will governments gradually lose their interest in large investments as their prospects for intervention diminish? Might we deduce that absolute degovernmentalisation is a threat to the survival of public television in those cases where other objectives are not particularly strong? A number of relatively immediate examples might lead us to think so.

D. Intensification of political pressures on governments. The audiovisual sector is one in which private operators coexist with public operators. This also occurs in other sectors (healthcare, education, transport, etc.). However, unlike these sectors, where coexistence is based on a combination of competition and cooperation (private schools and hospitals that receive some public funding, etc.), in radio and television the relationship is purely based on competition. Competition for audience ratings and competition for advertising, which in a sense are the same, particularly for private broadcasters, whose reasonable goal is revenue from advertising.

There's nothing odd in private operators viewing the public broadcasters' use of advertising as a sort of "unfair competition" and in them doing their utmost to convince public channels at the very least to limit their own use of advertising, or better, to eliminate advertising altogether. In many cases the objective, whether admitted or not, is the disappearance or privatisation of public broadcasters, based on lines of reasoning that, in some cases, are partially right, given the rather irresponsible conduct of some public operators.

Given the obvious importance of the role of the mass media in electoral periods, and particularly of television channels, it comes as no surprise that political parties may gradually assume undertakings in the future with private operators along the lines of their demands.

5. Provisional answers to a few questions

Many conclusions can be drawn from the description above, and such extrapolations could serve to help political and business decisions vis-à-vis the sector. However, this is not what I will do now, firstly because I have already stated my intentions at the beginning of this article, but more importantly due to a lack of space. However, if asked, I will not elude the request to do so at another time, even if it means taking certain risks.

For the same reason of lack of space, I am also leaving out a very interesting reflection on how these trends are already giving rise to specific initiatives in both the commercial and regulatory sectors of different countries around Europe and in the European Union itself.

To conclude, I will therefore limit myself to asking and answering a few somewhat provocative questions I have prepared. This will enable us to form an impression of the future and to momentarily avoid an in-depth analysis of all of its implications.

A. Will the television set disappear from our households? I believe so. At the very least, we will not go to a shop to purchase "a television set". As I have mentioned above, a television set is a household appliance that contains a screen, speakers and a tuner, along with decoding, amplifying and control electronics.

Given that, for many decades, the screen was a cathode ray tube, the television set had to be a large and deep box that contained many different parts. Some of these were very large and had to do with the tube itself, yet there were also speakers, tuners, electronics and other mechanisms. The appearance of flat screens and integrated networks inside the home (with cables or wireless) are changing all of this, and eventually we will be building our receivers in much the same way that we have been building our "sound systems".

What we will purchase will be "screens", "speakers", "amplifiers, tuners, decoders, storage disks", etc. On each of the screens we have installed, we will be able to watch television and view the content we have stored on the disk or the content coming to us via internet. We will also be able to see the person with whom we are conversing on the telephone, and write a text with the computer. In a word, when we purchase a screen, we will not be forced to buy speaker, and, similarly, when we purchase a computer we will not necessarily have to buy a screen.

B. Will television channels disappear? To a large degree, yes. Many of them will disappear, both private and public, as they will be unable to survive due to the large number of channels accessible. Yet it is not this that I wish to explain. What I mean to say is that the channels that continue to exist will have to be very different from the way they are today.

Today, the existence of a television channel is founded on two pillars: the ownership of a channel for broadcasting and the configuration of a programming grid. Without these two items, there is no channel. All channels must have a permanently assigned bandwidth (a fixed frequency), which should remain the same for many years. This enables viewers to locate the channel and tune into it. Without this bandwidth, the antenna and television set will not locate the channel. Potential users may also need to know what programmes are broadcast by each channel at each time of the day, making a programming grid essential. The viewer must know the time and channel on which he/she will find what he/she is interested in viewing. The "passive" viewer, for example, can do nothing but channel hop; in other words, he/she can merely choose from among all the

shows that are being broadcast at any one time.

These aspects make the channel very important, which in turn generates loyalty. Though there are viewers who say, "I watch American action films wherever they happen to be playing", in general, the vast majority of viewers tend to watch the same channels most of the time.

As I have already mentioned, this model of audiovisual "consumption" is changing due to the opportunities for asynchronous communication, storage on a computer disk or installed in the television set itself and the use of new platforms. Whereas audience ratings at the time of broadcast are extremely important, just as important for content providers will be the fact that viewers know that a given programme is available in a certain place and that they can receive it whenever they wish. The importance of the channel will now be complemented – not completely replaced – by the "electronic guide" and the PVR ("personal video recorder") which, with little more effort than channel hopping, will enable viewers to see "what they want, when they want to and on the screen they want". This has already begun on the internet and the trend is growing rapidly, with particular use among the young generations. The difficulty inherent in this model is that it requires the habit of using the computer, which is somewhat uncommon among a part of the adult population. Thus, in several years' time, it will gradually become prevalent.

Operators' commercial strategies must change. They will have to learn to produce not only for broadcast but also "for storage". In other words, waiting for someone to order products from them. Moreover, they will have to find the best strategies to ensure the success of such storage.

C. Will public television disappear? Probably. I believe that some broadcasters will disappear due to the causes I have suggested before. Some will have great difficulty in justifying the service they are currently providing, if subjected to a minimally rigorous analysis. Alongside the increase in budgetary difficulties, the governments or administrations that finance public television may gradually lose interest in keeping such services going. Finally, these circumstances may combine with the success of private sector pressures to block all public funding, however minimal or incomplete such funding may be.

Other public broadcasters will disappear in the sense I have just explained. In other words, those that continue operating will have to undergo the very transformation that I have described. Their failure to adapt to market changes will inevitably lead to their disappearance. On this point, the great danger is the possible sluggishness of public bodies to adapt to the new demands of the new times and, in such a case, it will be the competition that will relegate them to a marginal role.

Public operators will survive if they know how to make this change and to adapt to new consumer habits, yet in any case they will voluntarily disappear as simple television channels.

In conclusion, I will pose one final question.

D. Will the public audiovisual service disappear? I hope not. I am of the belief that it would clearly be to the detriment of our European societies to allow the consumption of audiovisual production to remain exclusively in the hands of the market and its exclusively profit-based logic. Social equality, cultural progress and other collective values would end up losing out.

I have already pointed out that I do not have enough space to develop this thought, though I firmly believe that it will largely depend on the attitudes and conviction of governments. Above all, the survival of this public service will depend on the wise decisions and outlook of the managers of today's public operators when envisaging a new public service model, and particularly in their ability to overcome any resistance that may arise when implementing such a model.