



Reformulating Public Service Missions within the Digital Switchover: new Content and Citizen Uses of Digital Terrestrial Television in Global Society¹

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Abstract

Digital Terrestrial Television has been of the last platforms to establish itself in a market that already comprised Satellite TV, Cable, IPTV, ADSL, Mobile TV and High Definition TV. Spanish audiovisual market has just completed the *analogue switch-off*, whereas lawmaker has been introducing decisive changes in order to liberalize the audiovisual market while preparing the digitization.

Spanish audiovisual has been immersed in a quite confused period in which the allocation of digital channels and multiplexes to public and private broadcasters has passed over a transitional period plenty of uncertainties about the future audiovisual business and in which the public service broadcasting model is being questioned by lawmaker.

This market is considered to offer a broad audience for content that may be different, public service oriented or simply commercial free or fee based, targeted at proximity or global market. A variety of content will be disseminated to a multitude of consumers, whose traditional passive role will change into an active one that seeks information, public services and entertainment. Much more, if new technologies enable consumers, they may also be generators of digital products by participating in the Society of Information and Knowledge.

With the advent of DTT, both interactivity and high definition are fundamental values to develop new content and new citizen uses that might force the lawmaker to reformulate the public service broadcasting within the T-services.

Key words

Digital Terrestrial Television (DTT), public service, analogue switch-off, digital switchover, T-services, T-content, Global Society, Information and Communication Technologies (ICTs).

¹ This paper develops and updates the main findings of the conference presented by the authors in the Annual Conference organised by the European Media Management Education Association in ESCP-EAP School of Management which had taken place in Paris 13-14 February 2009.

Presentation

In 2010 most of the State members in the European Union will be fully a digital audiovisual market and have set this date for the permanent abandonment of analogue standard television (*analogue switch-off*). Television, the invention which has contributed to changing the world in the last decades of the twentieth century, will be the last media to converge in this *digital* century. A scenario that will depend on major platforms: Digital Terrestrial Television (DTT), satellite TV, cable TV, IPTV, WebTV, Mobile TV, HDTV, TV3D and Holographic TV. All these developments are conceived for a smaller and closer world in which citizens are willing to assume a new role of players and participate in real time in major events.

At present, citizens in Europe are called to exercise their political rights at national and local levels. In recent years the European Union (EU) has been encouraging them to participate in their pan-European responsibilities, by taking part in the decision making process.

Despite the efforts made, this reality has often been characterized by a *lack of communication* between the EU and the current inhabitants of its 27 countries, since the referenda undertaken before the Maastricht Treaty in 1992². Furthermore, this political process has not been assisted by the attitude of some mass media with a national vision and values that, in practice, have not defended the Europeanists ones.

It is a great time to invest in new technologies but we cannot forget that there is a real risk of a *digital fracture*. That is why it is time to establish appropriate communication policies for the New Society of Digital Information and Knowledge. Policies have been focus on integration, diversity and participation to strengthen the role of citizens. This means using all possible platforms (particularly Internet and DTT) and their integrated services to promote access and use of information and, by extension, encourage public debate and feedback. TV, IPTV and mobile telephony are positioned as instruments of balance to avoid a widening gap and marginalization in this digital society.

Once digitized, television should evolve not only to become the front door for universal access to the Information Society, but also an excellent remedy for the economic discrimination (Rodríguez Barba, 2008). DTT is more than just a technology. It is a multi-channel service and, when it broadcasts free-to-air, DTT can approach a free offer of information, culture and entertainment.

We are talking about universal access in a Europe which is the world region with the highest degree of development in the Information Society (Fundación Orange, 2008), where such development is being led by Denmark, Sweden, Holland, Iceland, and Switzerland, followed by Germany, UK, Norway, Luxembourg and Austria. With DTT, it is going to be possible the future television system and this will happen inside a model of society and democracy in which each country will decide the best route and in which national models will be independent but with common aims, and above all strongly influenced by the traditions, public authorities and lobbyists (Bustamante, 2008).

² See Commission of the European Communities (2006). *White Paper on a European Communication Policy*. COM (2006) 35 final. Brussels: Author.

1. The new legal framework of DTT in Spain: is the public service broadcasting model in danger?

Originally, the introduction of DTT did not change the public service model of television in Spain, at least in a formal sense. The scarcity of the spectrum justified the legal definition of terrestrial television as a public service. However the introduction of digital technology – which makes possible a more efficient use of the spectrum through multiplex technologies³–, has challenged the validity of that *legal tag* and its administrative consequences.

Coincidence or not, the introduction of DTT has coincided with the transformation of the state public television, RTVE, into a corporation represented by public capital but overned in its majority by private Law⁴. Could this fact involve a first step to its future privatization? It is also known that lately a few of the official authorities are in favor of the privatization of the regional public televisions.

However, the imminent new Audiovisual General Law⁵ is likely to confirm the crisis of public service to the extent that it has undertaken an important *despublicatio* of terrestrial TV service which will take force simultaneously within the digital switchover. With the new law, the scope of the public service will be limited exclusively to public operators: explicitly for the RTVE Corporation, but not so clear for the local or regional public broadcasters.

Especially in this last case, the new law would introduce a potestative rule, not prescriptive⁶, which calls into question the true intentions of the legislature at this particular point. In fact, this prescription has been the subject of some amendments noting the lack of clarity in the legal wording contained in the Bill submitted by the Government⁷, since the ambiguity of the rule could open the door to privatization of regional and local public television⁸.

Traditionally, the legal classification of public service has involved the state ownership⁹ of the television service, whether the broadcaster is public or private. For the public Administration, this fact has granted the control of broadcasting licenses as an organized way to assign and distribute the limited frequencies. The *legal tag* of public service applied to terrestrial television determine, in fact, a greater administrative control and supervision of broadcasters, what means that private operators are to obtain an administrative concession –instead of an authorization. So far, the Law has imposed the specification of the public service missions in the programming of both public and private televisions. And the state financing of public televisions requires a clear separation between

³ According to the Spanish law in force, each digital multiplex with State or regional coverage will incorporate, initially at least four digital channels which can be operated 24 hours a day. However, when multiplexes are jointly exploited by several broadcasters, the government may allow a greater number of channels provided that they are technically feasible.

⁴ See Law 17/2006, of the State Radio and Television.

⁵ At the time of writing this paper the General Audiovisual Act is still remaining under parliamentary procedure to be definitively enacted.

⁶ The article 40.2 of the General Audiovisual Act, in its current wording, “the State, the Autonomous Communities and the local bodied *may provide* for the public service of audiovisual communication in order to broadcast free-to-air generalist and thematic channels”. It should be noted how legal wording uses a potestative formulation “*may provide*” instead of saying “will provide” or “should provide”.

⁷ Bill 121/000045, BOCG. Number 45-1, 23/10/2009.

⁸ The amendments to clarify the real scope of the prevision have been introduced by the Congress and the Senate. See Amendment number 63 of the Mixed Parliamentary Group in the Congress.

⁹ This classification is derived from the fact that the spectrum is considered a public domain (*demanio*).

public service activities –the net cost of running the public service– and commercial ones in order to avoid cross-subsidization¹⁰.

It must be remembered that the Resolution of the Council and of the Representatives of the Governments of the Member States of 25 January 1999 concerning public service broadcasting reaffirmed that the fulfilment of the mission of public service broadcasting requires that it continue to benefit from technological progress, including digitization. The co-existence of private and public audiovisual media service providers is a feature which distinguishes the European audiovisual media market¹¹.

One of the innovations of digitization is the rapid increase of new actors to promote pluralism, which involves a new range of thematic contents and services that revitalize the public service of television. From this point of view, Spanish law has kept the legal classification of public service for digital terrestrial television¹², although the recent regulation adopted for developing DTT has *curiously* failed to mention this term. According to Linde & Beltrán (2003, p. 333), “it would have been reasonable that [Spanish] law-maker and Government had introduced digital television in a more transparent way, particularly in the side that represents the emergence of new broadcasters in the audiovisual market”. In fact, as Cousido and Gutiérrez (2008) point out there is a lack of transparency in all this process towards the complete digital switchover regarding the maintenance of the public service¹³.

Transparency as a practice of good governance in both the public and private audiovisual sector goes beyond the understanding whereby both the Public Administration and companies comply with the Law. The need for this principle is not limited to the private sector: there is a greater need for transparency within the Public Administration which is often noted for its high levels of opaque practice (Cousido & Gutiérrez, et al., 2007b).

It was also questionable the way in which Spanish law-maker enforced the specific regulation of DTT to eliminate the traditional limit of three administrative concessions for the exploitation of the analog television service, provided for the Private Television Law of 1988. That allowed the entry of a new analog broadcaster (La Sexta) precisely when the migration to digital was supposed to be the real goal of the specific regulation promoting the transition to DTT. It was surprising that this prescription was then justified in the pluralism of information. But it becomes much more astonishing a so-called “urgent” regulation, recently enacted, which contains the reverse measure, to say the elimination of the existing legal restrictions to avoid concentration of capital in different concessionaires – which in practice leads into mergers of private broadcasters nationwide¹⁴. And this is also considered by law-maker as a measure supportive of pluralism.

¹⁰ With regard to the state financing of public television and according to article 86(2) of the Rome Treaty -as interpreted by the European Court of Justice and the Commission- State aid will not exceed the net costs incurred by public operator. This provision has recently been included in the regulation of the Spanish Public State television, Radiotelevisión Española (RTVE).

¹¹ See Audiovisual Media Services without Frontiers Directive 2007/65/EC.

¹² See the Additional Disposition 44 of Law 66/1977, of Fiscal, Administrative and Social Measures.

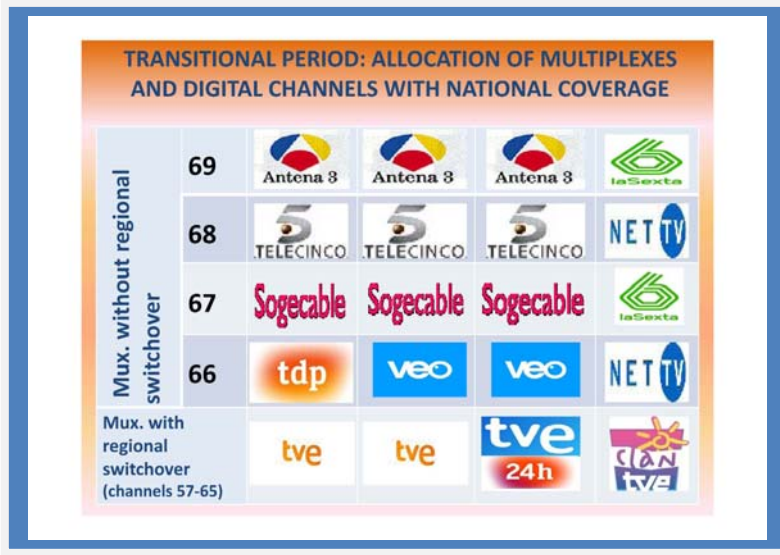
¹³ The research group *Transparency, Good Governance and Communication* (TRABUCOM), composed by university researchers, has been working since February 2006 on transparency in the Spanish audiovisual sector. Their principal theoretical findings are compiled in Cousido, P. & Gutiérrez, E. et al. (2008). *La Transparencia en el Sector Audiovisual. Comentarios a la Normativa Española y Comunitaria*. Barcelona: Bosch. The analysis of the current transparency standard and the degree of fulfillment carried out by the Spanish audiovisual actors is developed in Cousido, P. & Gutiérrez, E. et al. (2007a). *Primer Informe de la Transparencia en el Sector Audiovisual Español*. Madrid: Universidad Complutense de Madrid. The English version of this Report, Cousido, P. & Gutiérrez, E. et al (2007b). *First Report on Transparency in the Spanish Audiovisual Sector*. Madrid: Universidad Complutense de Madrid is also available in <http://www.trabucom.com>, TRABUCOM official website.

¹⁴ See the Royal Decree 1/2009, of urgent measures in the field of telecommunications.

2. The “current future” of the Spanish digital market

In the Spanish audiovisual sector the distribution of multiplexes and digital channels between public broadcasters and private broadcasters has been progressive from a transitional period (**figure 1**) to the current “analogue switch-off” in April 2010 (**figure 2**).

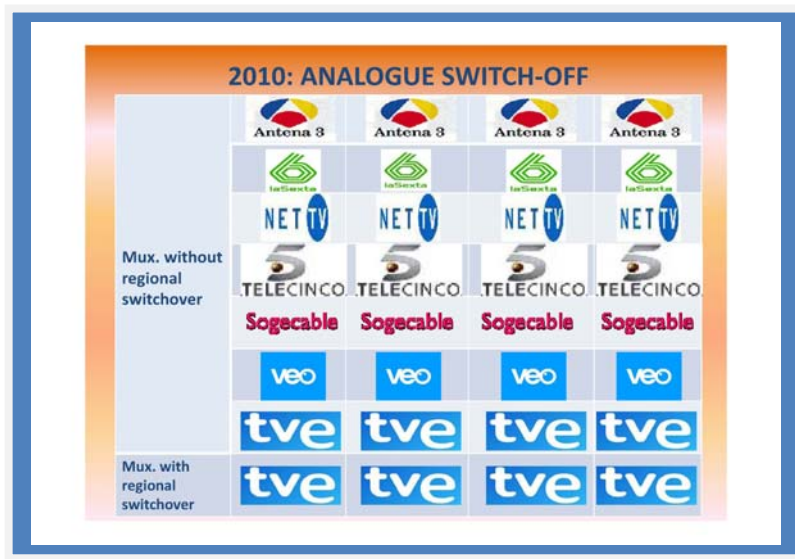
Figure 1



Reference: Spanish Telecommunications Market Commission and own elaboration

Until the present day there were five multiplexes: a complete one reserved for the State television, RTVE, with regional switchover and four other multiplexes awarded to the private operators without regional switchover¹⁵ (see **figure 1** above). At this moment there are eight multiplexes and a mobile one with national coverage. Six of the multiplexes are operated by private broadcasters without regional switchover and two of them by RTVE with regional switchover (see **figure 2**).

Figure 2. Analogue switch of in 2010: allocation of multiplexes nationwide



¹⁵ During the transitional period, one of the digital channels granted to the Spanish private operators Antena 3, Telecinco and Cuatro had to be operated in simulcasting.

A total of 1216 digital channels will be operating in 2010, distributed as follows. There will be 8 public and 24 private channels with national coverage, 79 channels with regional coverage from which 35 will be private, and 1117 local channels (321 will have public ownership and 895 private).

Public television, in the first phase of the national coverage, will be the main driving force leading the change towards a general, thematic, free-to-air and inclusive DTT; a technology which is capable of offering society interactive services, whilst regional and local broadcasters are betting on the proximity, with some political and social aims such as civic education, connection with citizenship and rapprochement between citizens public institutions.

For Spain, 2009 has been the key year for total digital switch-over. It was foreseen that by the end of 2009 the degree of consumption of DTT reached 32.6% of the population. 2008 has ended with a degree of implantation of DTT in homes over the 45.1% of population, with a screen share of 21.9% (cable achieves 15.2% and satellite 4.8%), while analogue television, with 58.1% of screen share, continues to decrease as expected (INS Audiencia Medios: 2008). This was very optimistic data if we take into account that in 2008 the Spanish audiovisual market had an average television consumption of 248 minutes per day, 9 minutes more than in 2007, and the sale of set-top box approached 15 million units (Impulsa TDT, January 2009)¹⁶.

Moreover, the consumption of cable TV has increased in the last year (see **Table 1**) whilst satellite TV has decreased and Mobile TV has remained at the same level (Spanish Telecommunications Market Commission, 2008).

Table 1. Television Consumption in 2008

	I Quarter 2008	II Quarter 2008	III Quarter 2008	Difference III-I
Satellite TV	2.080.000	2.085.750	2.061.000	-19.000
Cable TV	1.236.093	1.279.525	1.289.544	53.351
IP TV	636.140	668.520	683.633	47.493
Mobil TV	259.376	291.374	271.819	12.443
Total	4.211.609	4.325.169	4.305.996	94.387

Reference: Spanish Telecommunications Market Commission and own elaboration

This evidence leads to the prediction that DTT will be for a few more years the consumer platform of choice for audiovisual content. For example, in December 2008, the average consumption of terrestrial digital broadcasts was 122 minutes per day, seventeen minutes more than the time consumption of analogue broadcasts. In addition, the data reveals that apart from the increase of digital tuners in homes, there is a greater use of them in those which already have TDT.

¹⁶ The following data give a comparative idea about the degree of penetration of DTT in Europe: Germany (Jul 08) 11.1%, France (Jul 08) 31.7%, Italy (Oct 08) 30 % United Kingdom (Jul 08) 65.1%. See Impulsa TDT, January 2009.

3. New interactive services for television consumption

A growing segment of the European population is now utilizing digital devices. In the segment representing the youngest people, under 23 years old, three of four usually carry out tasks and activities using digital devices. In Spain, over 20% of its citizens always, or almost always, use a digital format to send mail, listen to music or watch videos (Fundación Telefónica, 2008). In this scenario of progress, the digital terrestrial television will be the most-used platform for providing integrated communication and interaction to the emerging consumers of the Information Society and Knowledge, though citizens will be provided with multiple services.

With DTT, management processes which are respectful to the social and political plurality and the technological convergence in order provide the efficient regulation of the communications networks and services (Clements, 2001). This improves competitiveness and growth of infrastructures. In this diverse and inclusive reality, new factors of production are to bring new contents to the citizens. New business models must be developed on the basis of the value-added generated by content and advertising. On the one hand, DTT will offer free-to-air (TDT1.0), of payment (TDT2.0), and onDemand (MHP 1.2) audiovisual contents. On the other hand, the exploitation of generalist advertising and interactive advertising (t-Commerce) will be targeted towards a specific consumer profile. This model of advertising will take advantage of interactive return channels.

There is a high interest of operators to participate in this platform for the exploitation of some pay channels. This requires the need for *must carry* and *must offer* regulation to guarantee the control of the broadcasting rights and to ensure the interests of all broadcasters whatever is the platform they operate.

As well as Internet, DTT's mission is to convert users and consumers of digital television in digital citizens, familiar with the benefits of the Information Society, with more mature and quite different habits of consumption and social behavior.

The increasing use of Internet reduces the consumption time of other media –such as television, newspapers or radio. But the development of digital terrestrial television, with its offers of generalist and thematic contents, through free-to-air broadcasting and at no cost to consumer, will keep interest in the consumption of entertainment¹⁷, information and commercial contents, even without an initial development of the MHP¹⁸ system capable of supporting different types of applications such as electronic program guides (EPG), services of information –teletext or teletypes news–, synchronized applications for television contents or social, educational, health or financial applications.

At this moment, interactivity may help to achieve the necessary resources for sustainability of DTT in a market that, for the moment, spares the economic benefit for the operators of television channels. TDT2.0 with attractive contents may encourage and accelerate the digitization and promote the electronic industries (purchase of equipment) and telecommunications. But it will be a guarantee of additional business for the 30 free-to-air national channels that will compete and cover the high cost of transmission of each

¹⁷ For example, Disney Channel, a targeted child audience channel, was originally a pay channel but in 1 of July 2008 begun free-to-air broadcastings in one of the two channels awarded to Net TV (Fly Music Channel).

¹⁸ *Multimedia Home Platform* is the necessary interface for interactive digital applications and terminals in which these applications are executed. The integration of digital TV and PC multimedia is one of its advantages.

channel. A similar model to that of pay television on the other major distribution platforms: cable, satellite and IPTV.

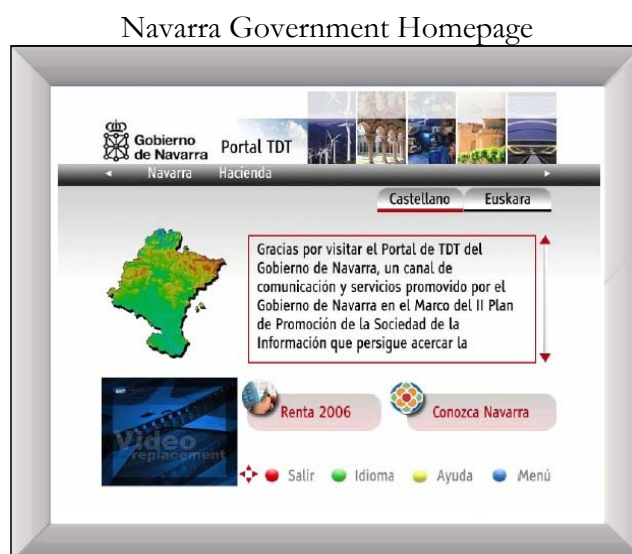
We are at the phase of Interactivity 1.0, not developed yet, of the free-to-air offer. And this means a local interactivity between the user and the television that offers a higher quality in audiovisual reception. In the second phase of Interactivity 2.0, not to be commercialized until after 2012, TDT3.0 will be developed with high definition (TDTHD) and interactive services on a return channel for IP streaming and downloading of applications. When that transactional interactivity occurs it will enhance the relationship amongst operator-user-consumer-citizen. In order to achieve these improvements, it is required that new telecommunications networks that allow powerful two-way interactive applications for multimedia content and with a constant connectivity (as it is demanded for ADSL) are developed.

TDT1.0 will bring the Information Society to all citizens without major technological or economic requirements. DTT will enable and facilitate, from home, accomplishing administrative commercial, financial or educational proceedings.

Citizens will be able to take part in whatever happens in their local or even remote environment thanks to the ability to interact at any time with the programs and with the program alternatives offered. Watching television may become a game, a new channel for leisure and entertainment and new way to access information.

With the pilot programs and actions carried out in Spain, such as the *Proyecto Alcázar Digital TDT*¹⁹, the *Piloto TDT2.0* in Extremadura (García Vallejo, 2007), or TDT Portal en Navarra (see **Figure 3**), new ways of providing different t-services through DTT using smart cards (TDT1.0) and Premium Content (TDT2.0), have been tested. For broadcasters it is a new source of business, with controlled risk, without limits and new horizons in terms of loyalty, user profile and direct marketing.

Figure 3. Access to T-services in Navarra TDT Project



¹⁹ The *Alcázar Digital TDT* Project is an initiative, supported by the EU Program, e-Europe, to promote the Information Society as a means to improve business competitiveness and quality of life of citizens. This project was the result of the Convenio de Ciudades Digitales (Agreement of Digital Cities) amongst the City the Alcázar de San Juan (Ciudad Real, Spain), Junta de Castilla La Mancha and the Spanish Ministry of Industry, Commerce and Tourism.

Access to main menu



Income Tax Form (I). Personal data

Gobierno de Navarra Portal TDT

Navarra Hacienda

FECHA DEVOLUCION - NIF / NIE : 88888888A

1. Información
2. Envío solicitud
3. Fecha devolución

Declaración pendiente de Grabación/Revisión

Cuota	-1.111,97
Saldo	0,00
Importe Devuelto	0,00
Importe Compensado	0,00
Fecha Abono	
Cuenta Bancaria	

Embargos Deudas

Salir Inicio Ayuda Menú

Income Tax Form (II). Advice

Gobierno de Navarra Portal TDT

Navarra Hacienda

Servicio de FECHA de DEVOLUCION

Introduzca sus datos de identificación y pulse sobre el botón Entrar:

NIF

NIE

NIE: X - A

Introduzca su NIF/NIE

PIN:

Introduzca su PIN (4 últimas cifras)

Entrar

Salir Inicio Ayuda Menú

An example of new services in the context of health care, t-Health and t-Assistance, prove that much more personalized interactive applications can be offered, especially for the elderly people, traditionally more reluctant to new technologies. In fact, these technologies can be assumed by those groups of population so that they are offered through television.

Some of these benefits²⁰ are: making an appointment to go to the doctor, consulting waiting lists for specialty care or the list of pharmacies on duty; booking specialized transportation in a medical emergency or health assistance; procedures for health card; changes in domicile or in affiliation number of the health care company; requesting a new card; notifying the National Identity Card or Tax Identification Number under-14 years; requesting for medical care emergency at home; integration of health cards; tele-assistance or tele-monitoring; post-surgery monitoring; tracking test; sending analytic and biometric measures with connected devices; interactive pillbox; alert button; medicament management and alerts; monitoring of patients. All these interactive services will be accessible without leaving home, while watching television.

This value that interactivity brings to society should prevent citizens' ignorance and the lack of support required to broadcasters and public administration. If not, which is the better vehicle for promoting the Information Society without creating any distrust in citizens and encouraging them to know their environment?

At a local level, there are more opportunities to undertake proximity actions using the digital terrestrial platform. The results of the experience in Alcazar de San Juan (Ciudad Real - Spain) as an interactive city, thanks to the MHP, show a future even beyond the television, where a future multiplatform brings together web, television and mobile phone.

4. New contents for the new Global Digital Society

We are quickly heading towards a digital society. In the more developed countries, people already think and talk in "digital". A variety of media compete everyday across multiple channels to tell us things targeting fragmented and segmented audiences according to profiles of interest; for a very high consumption capacity and frenetic pace of life; for the importance of time. In the television industry contents have always been very important. In the future, the key will be on how to tell people. And those who do DTT, they indeed know it.

In the twentieth century we arrived in the audiovisual society and since we have been propelled to the Information Society a lot of audiovisual content is uploaded by users (Cockail Analysis, 2008)²¹. As we said at the beginning of this paper, users increasingly want to participate in this democratic society as actors in the Information Society and knowledge, in a televised scenario that keeps the conventional television as the main source of audiovisual content that the Internet feeds from.

Football, concerts, documentaries, cinema in high definition is available in multi-angle broadcast. They are free, thanks to sponsorship and pay-per-view, of any commercial advertising and they are also accessible through the three major platforms (Casado, 2008). In a time when we have information everywhere -in the car, at home, in the office, on the

²⁰ By law it is not permitted using more than 20% of the transmission capacity of digital multiplex for the provision of such interactive services.

²¹ One of every five Internet users uploads videos to the net. 30% of users are between 18 and 14 years old.

mobile, the radio, on the television and on the Internet-, spectacular contents for dramatic moments of crisis are being disseminated. In this reality plenty of paradoxes and contradictions, broadcasters should fight against the impoverishment of the contents (Sánchez Tabernero, 2008, pp. 26-30).

DTT is to be like the Internet. There are new things to offer at affordable prices. At first glance, even though free DTT may not be sustainable -as private operators usually maintain-, the principle of *share contents*, that is free-to-air broadcasting, would encourage a higher consumption. Television accumulates a great experience and would not be affected by changes because it is the most important media for superficial content. It let people choose and it has to tell us simple stories. The heroes of XXI century will be the story tellers (Roberts, 2008). The trend is imposing mobile phones: SMS supply with extraordinary ideas and long dialogues to tell the excitement. It is a further step in this Society of Information and entertainment towards a society of the attraction.

DTT involves encouraging participation, gaining customer loyalty, searching in a MHP setting customized contents for individual profiles and creating electronic program guides (EPG) to assist in programming the virtual links with social networks in terms of degrees of interest. Both advertisers and brands can better target the audience and develop multiplatform settings (DTT, IP, Mobile) with lower production and distribution costs than today's.

Table 2. Number of homes equipped with people meters

Country	People meters
China	14.164
Unite States	12.893
India	7.000
Germany	5.401
Italy	5.167
United Kingdom	5.122
Spain (2009)	4.500
Rusia	3.549
France	3.400
Australia*	3.035
México	2.848
Turkey	2.500

Reference: Eurodata 2008 and own elaboration. *Australia: Five cities.

In addition, test panels, with which DTT and the fragmentation of audiences have increased the sample, will allow deeper and accurate analysis of what, when and by whom television is consumed. In the Spanish case, by 1 April 2009, the sample will reached 4,500 homes (TNS, 2008), 17% more than the previous year. Therefore, Spain was in seventh position in the ranking of countries by number of homes equipped with people meters in the world and the fourth in Europe (see **Table 2** above).

5. DTT commitment with education

DTT is a formidable tool to disseminate educational contents, providing education and learning opportunities for citizens from their homes. T-Education is an example of the possibilities that interactive television offers for certain contents, such as teaching of languages (Aprenda Inglés TV or That's English).

It is a question of a leisure-oriented education and culture, which will bring us social and educational Knowledge, and this only requires the television, the interactive set-top box (MHP tuner), the remote control, access to the t-Education (t-Learning) service, the return channel and a system for identifying users.

In other words, the access for t-services requires simple and customized interactions, with a 99% penetration in the use of the service for children and the elderly. That means a real educational revolution that will complete the e-Learning creating new users in adult training and the opportunity of a constant learning.

With educational DTT the process for the technological integration of citizens would be completed in the emerging new Information Society and knowledge, through programs conceived for this platform with accessibility systems to view contents in different languages, with common rules and supervised by accountable states and governments. Content used to individualize learning and diversity. Not only do we need education in the media but also the media are used for a quality education.

DTT is to serve as ICT in education to open classrooms with windows facing to the world (Pérez Sanz, 2008), also to help teachers and teacher training, using the new audiovisual and interactive resources and contents to enhance an unlimited cultural and educational public service channel.

6. Main findings

It seems that all parties involved in the transition to DTT in Spain have very good motivation and are constantly disseminating press releases in favor of development and implementation of this new audiovisual and interactive platform. However, despite the price does not reach 60 €, it is very difficult to acquire MHP decoders or televisions integrated with them. Does it have to do with the real lack of contents and interactive services? Or is it, as some experts have *whispered* off the record, “It is not the time for interactivity”.

From the premise that interactivity means added value for public service of television, it is essential to incorporate this interactivity to the development of DTT in Spain. However, it remains unknown to most users and broadcasters do not encourage it.

TDT2.0 solves most of the annoying problems for users: slowness, limited bandwidth, volume of services. Therefore it helps for the development of new business models and for the easy access to the Information Society through the television as a familiar multimedia center and a citizen platform.

Pilot experiences carried out in some Spanish localities and regions show that users are receptive and “surf” without fear when making intuitive design. The attitude of viewers is not far from passive. The experiences have been very positive, although regulation has

not been adapted to local realities and a public and complete offer of DTT services has not been developed yet.

Public Administrations should encourage the development of the interactivity of the TDT2.0 in Spain, promoting audiovisual market and helping the industry. But both market and industry must respond to the plans of support and development. We can not expect that users are going to demand services. That is why public institutions, market and industry need to make an effort to explain to citizens the new opportunities available when they are in front of the television. Furthermore, none of those involved in DTT switchover should be afraid of content and conditional access systems because they are a part of the market development associated with the new technology.

In addition, t-Education is an excellent example of the possibilities of DTT for some interactive content or certain groups, such as immigrants, elderly people and their caregivers. The Spanish company, Indra, specialized in IT, has designed jointly with other partners, as RTVE, Instituto Cervantes and La Salle University, a tele-education application through DTT that links to the *English Channel* developed by RTVE. The project was encouraged by PROFIT, a program of the Spanish Ministry of Industry, Trade and Tourism. Its purpose is promoting social and cultural integration of immigrants. We are looking forward to seeing this application fully implemented in order to answer back those who think “It is not the time”.

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