Digital culture and communication: HbbTV or the new interactive culture

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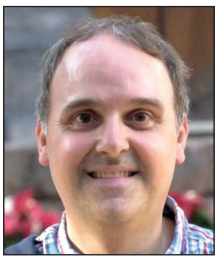

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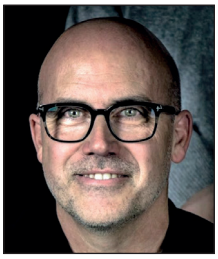

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Abstract

The television medium has traditionally been the revenue engine for the advertising sector, and the way to build audio-visual culture. The emergence of hybrid television, led by the HbbTV standard, is generating a scenario of increasing interactivity and customization. This research tries to detect the main motivating factors and future trends in the relationship between television and interactive advertising, in a new interactive communication scenario. Methodologically, the qualitative technique of Delphi is used, the most advisable in prospective approaches to incipient objects of study. The consolidation of smart TV on demand, the lower relevance of television in classical terms as a basic medium for advertising but greater with interactivity, the growth of branded content and the adaptation of the message to the medium are concluded.

Keywords

Television; Digital culture; Advertising; HbbTV; Interactivity; Audio-visual, Internet.

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1. Introduction

HbbTV (Hybrid Broadcast Broadband TV) is the most progressive Internet and audio-visual integrator system, driven by Germany and Spain. In the Spanish case, the name of the standard is associated with the red button of *Radio Televisión Española* (**Varona-Aramburu**, 2014). The founding members of HbbTV are *ANT Software Limited*, *EBU*, *France Televisions*, *Institut für Rundfunktechnik GmbH*, *Koninklijke Philips Electronics N.V. Inc.*, *OpenTV Inc.*, *Samsung*, *SES ASTRA S.A*, *Sony Corporation* and *TF1*. These are broadcasters and normalizers, middleware (intermediary) programming publishers for consumer electronics devices, manufacturing companies and laboratories that test consumer electronics devices.

The hybrid television (the one that mixes audio-visual and Internet) took its first steps in Spain through *TDTcom*, technological contribution of the company *Abertis Telecom*, which since 2015 is called *Cellnex*. Similar initiatives are created in France (*TNT2.0*), Italy (*TIVU*) and United Kingdom (*YouView*), which ensures interoperability.

For broadcasters, HbbTV means more channels, more interactivity and more control options for broadband content. The *TDTcom* model uses "mappable" colour buttons and applications managed by the broadcast channel. The interoperability analysis of the *Ginga-NCL* and HbbTV applications, which consists of using an *NCL* player implemented as a web application to be run on an HbbTV platform, reflected the integration possibilities of a web-based *NCL* player and subsequent tests using an HbbTV emulator (**Dos-Santos** *et al.*, 2015).

One of the doubts that arise when a new technological standard appears is its acceptance by the market (**Jiménez-Martínez**; **Martín-De-Hoyos**; **Hernández-Ortega**, 2006; **Fondevila-Gascón**, 2007). The penetration phase is the most critical, because it can condition the development of innovation. In this case, the HbbTV is getting more than expected acceptance, indirectly driven by European public policies (**Reding**, 2007; 2008), whose priority is the Broadband Society (**Fondevila-Gascón**, 2012b) and digitalization (**Prado**, 2010; **Fondevila-Gascón**; **Rom-Rodríguez**; **Santana-López**, 2016). The Digital Agenda for Europe, the momentum of high definition television and 4K, and the commitment to interactivity (through Video on Demand, mobile or Digital Video Recorder) and mobility (*Zenithoptimedia*, 2010) are framed in this environment.

In fact, we are immersed in a phase of packetization of digital services: television, Internet and telephony, that is, triple play (**Fondevila-Gascón**, 2009a), which progresses to the so-called quintuple play (which implies television, fixed Internet and mobile and fixed and mobile telephony), marketed by historical cable operators (**Fondevila-Gascón**, 2004, 2009b). In that context, HbbTV is a synthesis of cooperation between audio-visual and telecommunications.

> "We are immersed in a phase of packetization of digital services"

Within this framework of the coexistence and synergy between television and the Internet, some data confirm the tendency to hybridization, led by the rise in the consumption of non-linear television and video on demand (*Windward Communication*, 2018).

Hybrid television is set in Europe, the United States and Japan (*Idate*, 2012; *Abertis Telecom*, 2012; **Vázquez**, 2013). The *Spanish Association of Interactive Television Companies* (*Aedeti*), which hosts interactive digital audio-visual media in Spain, defends and promotes HbbTV. In 2009, *Aedeti* analyzed the most suitable interactive television standard for the Spanish market. In 2010, HbbTV was chosen (**Del-Ama-Gonzalo** *et al.*, 2011), as in France and Germany (**Tobin**, 2013; **Welker**, 2015). Austria and the Netherlands added to that wave. In 2011, the *Ministry of Industry, Tourism and Commerce* published the document managed by Aedeti with technical recommendations to develop new business models for hybrid television consumption and interactive services through the HbbTV system. The consensus of 54 companies (multinational consumer electronics, television channels, service developers and encryption technology providers) was achieved. Approved the HbbTV standard, in 2012, *RTVE* accelerated an agreement to adopt the DRMs (digital rights management) of *Marlin* (*Intertrust*) and *Playready* (*Microsoft*) for connected television.

HbbTV can be associated with industry 4.0 and the possibility of obtaining purified metrics on the viewer (**Navarro**; **Villarreal**; **Martínez**, 2010). The possible coexistence of Ginga and HbbTV as interactive television systems (iTV) in Brazilian and European broadcasting systems, ISDB-Tb and DVB, respectively, is also analyzed. Both system architectures are compared, in particular with respect to their functional modules, and the necessary information is provided to assess the possibilities of a joint framework that includes both Ginga and HbbTV, which leads to a possible base of a system that supports applications Ginga and HbbTV (**Calixto** *et al.*, 2014).

Second-screen services (using the tablet or smartphone, for example) encourage viewers to enjoy new forms of interaction that involve users around TV content as a thread. Hence, standard solutions for second-screen services synchronized with the content of the transmission are proposed (**Zorrilla** *et al.*, 2013). The user perceives an enhanced streaming experience enriched with multimedia, textual and social Internet content across multiple devices. The end-to-end solution delegates the maintenance of the cloud session to a server to match and synchronize HbbTV and second HTML5-based applications that overcome existing heterogeneous network interface barriers of current technological

alternatives. The server dynamically decides the behaviour of different applications with respect to the user's context, according to their preferences, device characteristics and number of simultaneous views. It also manages user interaction by providing a complete synchronized experience thanks to an event driven mechanism in addition to Websockets and AJAX. The performance of the proposed system is analyzed, evaluating the latency of user interaction, the volume of concurrency of the server and the interdependence. It is concluded that this solution offers a suitable approach for second screen services.

> "Second-screen services encourage viewers to enjoy new forms of interaction that involve users around TV content as a thread"

2. Theoretical framework

The confirmation of the technological viability of HbbTV encourages the advertising sector to investigate possible applications and ways of monetization. For advertising agents, the combination of content and social media action (**Fondevila-Gascón** *et al.*, 2020a, 2020b) is a major knock, linked to applications and Internet content businesses (over the top or OTT).

Advertising media agencies analyze the possible changes in consumer buying behaviour while developing the initial interactive advertising tests since 2014 in Germany (*ProSieben* and *RTL*) (**Botey-López** *et al.*, 2016). Taking advantage of these tests and the growth of the number of metrics on the Internet, real-time data control is developed, which provides options for advertising day trading and programmatic purchase inserts. The detector emerges without watermarking, that is, a steganographic formula that hides information about possible illegal uses of digital services.

In general, in the first interactive insertion tests (those that allow the viewer's dialogue with the content via the remote control) the measured indicators are inspired or identical to those of the Internet. The most basic is the CTR (Click through rate), that is, the Clicks / Impressions ratio. In advertising, the average CTR display in 2018 is around 0.09% on the Internet and 0.07% on television (*Cecable*, 2018). With the HbbTV, the CTR gets 6%, as evidenced by 8Madrid TV, thematic channel specialized in cinema that broadcasts in the Community of Madrid.

Another metric is the viewability, that is, the visibility of an ad. The expansion of advertising blockers, adblockers, could condition the results of this indicator, although for the moment it is observed that with HbbTV the zapping minutes multiply by four the effectiveness in interaction of the viewer and conversion (**Fondevila-Gascón**; **Botey-López**; **Rom-Rodríguez**, 2017).

The frequency of accesses (the number of impacts per single device) is another indicator to consider. In HbbTV tests in 2015 in Germany and Spain, 90% of viewers interacted before the fifth time. Success is close to 100% with a twelve-fold shipment. As for schedules, mornings are more effective. In fact, a campaign in Spain for Letsbonus showed that, facing the viewer, an acquisition through HbbTV was more comfortable on the second screen than on the main screen (**Fondevila-Gascón**; **Botey-López**; **Rom-Rodríguez**, 2017).

From the point of view of marketing, the interaction between HbbTV and social networks (**Boyd**; **Ellison**, 2007; *Aerco*; *Creative Territory*, 2009; *HighBeam Research*, 2011) opens a wide range of options from the perspective of digital marketing, such as collection of proposals online. The convergence between television and the Internet (**Del-Ama-Gonzalo**; **Barceló-Ugarte**; **Sánchez-Martínez**, 2011) paves the way for advertisers (**Mansilla**; **Marcos**, 2013), thanks to the use of social media (**Vázquez**, 2013) and the concept of entertainment (**Pindado-Pindado**, 2005; **Barrios-Rubio**, 2009), although some interactive advertising experiences are linked to payment purposes (**Azcoitia**, 2006).

A social network taxonomizes nodes based on metrics that promote electronic commerce (**Fondevila-Gascón**, 2011), horizontally or vertically (*Ontsi*, 2012).

HbbTV research began with the communicative and technological analysis of the standard (**Fondevila-Gascón**, 2012b), usability (**Mansilla**; **Marcos**, 2013), geospatial navigation (**Berger** *et al.*, 2014) and educational applications (**Fondevila-Gascón**, 2013; 2015).

Another of the lines of study that can be developed in the short term is the impact of 4K television on interactive solutions. In this sense, in 2018 *Vodafone* presented its 4K TV service *Vodafone Spain TV*, in order to provide the most advanced user experience. The solution included content and market functionality, on the latest generation *TiVo* platform and with access to all the contents of *HBO* Spain and *Netflix*. In fact, *Vodafone* was the first operator in Spain to include channels and content on demand in 4K. One of the keys to interactivity is the interface, more visual and intuitive and supporting multiple simultaneous recordings of cloud content. This allowed users to access these contents from any home decoder, as in the *BBC Canvas Project* (**Thomson**, 2013).

As the popularity of smart entertainment devices increases through HbbTV, blu-ray players, decoders and smart TV with high connectivity, another object of study is security, following the dangers of Internet connectivity through networks

LAN or WiFi. Smart TVs allow broadcasting stations to provide real-time information directly to consumers, such as additional information about a television program. HbbTV is one of the standards that combines digital video broadcasting (DVB) and the Internet, and defines how commonly used web technologies can be used as a transparent overlay on the current channel. Each respective broadcasting station is responsible for the contents of the HbbTV signals of its channels. In an investigation, it is shown that broadcasting stations measure the display behavior of consumers more accurately using HbbTV (**Ghiglieri**; **Tews**, 2014), which implies certain privacy risks in the exposure of personal preferences. A method is described on how the display behavior can be monitored without the user's knowledge and consent, method is possible in most of the channels that use HbbTV, even without the user actively initiating the HbbTV application. That data can also be collected on an encrypted WiFi network.

Another focus of analysis is the impact of the impact of HbbTV on the recording of television services, which acquires a new dimension through interactive culture and hybrid services (**Dufourd**; **Thomas**; **Concolato**, 2011; **Ziegler**, 2013). Interactive applications involve adaptive transmission tools that facilitate solutions. Implementations based on MPEG-2 TS (*MPEG-2 Transport Stream*) and ISOBMFF (*ISO Base Media File Format*) can help you better control the recording. Thus, the interoperability between hybrid television services (**Bibiloni** *et al.*, 2014).

As a new platform, HbbTV stands as a challenge for software designers. In general, such a standard requires a new software design in a very short period of time, backed by efficient and adequate testing and verification over time. In addition, the designed system must be efficiently ported to several platforms and functionally verified with minimal effort. That is why a software architecture is proposed that facilitates the product development process, evaluable on a device compatible with HbbTV (**Lukac** *et al.*, 2011).

HbbTV compatibility allows broadcasters to run dedicated smart TV applications as a browser overlay on their television channels. The HBB-Next project and the standardization of HbbTV 2.0 are a reflection of the future vocation of the standard. HBB-Next designs and implements several next-generation HbbTV frameworks, including multi-user identification, synchronization between media and device streams, multi-user recommendations, custom reputation scores for applications and cloud download. The features for HbbTV 2.0 are grouped into four categories: browser, terminal, complementary screen and media. About 35 stations, television manufacturers, technology providers (some of HBB-Next) actively contribute. The second screen support, media synchronization and user identity management occupy a prominent place in the HbbTV 2.0 feature list. The technological developments of HBB-Next and its contributions to HbbTV 2.0 reflect the weight of user experience and business considerations (**Van-Deventer** *et al.*, 2013).

> "There aremotivations and prospective trends in the field of communication and interactive advertising culture"

3. Objectives, hypothesis and methodology

The objective of the research is to detect angular motivations and prospective trends in the field of communication and interactive advertising culture. For this purpose, a qualitative technique is chosen: Delphi, which polls specialists in a subject on a subject of study of a certain complexity, with analytical depth and purpose, in order to agree on the kaleidoscope of collected opinions (**Landeta**, 1999; **Hsu**; **Sandford**, 2007), although that agreement is not the ultimate goal (**Dalkey**; **Helmer**, 1963).

Hypothesis are the next:

H1. Television will be adapted to provide coverage at key moments.

H2. The television consumption will be on demand and multiscreen.

H3. There will be an adaptations of TV formats, fostering branded content.

H4. The audio-visual languages will be adapted to interactivity and to the digital culture.

After focusing the analysis on the new culture and forms of interactive advertising on television, Internet and digital media, and real applications on HbbTV, the group of experts was selected, a first questionnaire was prepared for a first round of interviews, the questionnaire was tested between professionals and academics, the contact material was prepared, the questionnaire was sent online and the field work was monitored. The research was carried out between April and July 2019.

The profile of participants in the panel was professional and academic. The selection criteria were the accumulation of more than five years of experience, a solid position (for example, leaders of advertising or media agencies, companies or associations, positions related to the advertising or technological sector, members of academic institutions) and knowledge about discipline and professional reality. Professionals execute tasks related to the object of study, and academics complement the vision thanks to scientific knowledge. The n = 34, high considering the specialization of HbbTV, is broken down into 26 Spanish specialists, 5 from other European countries and 3 from the rest of the world. Of the Delphi members, 6 are academics and 28 professionals (Tables 1, 2a and 2b).

Table 1. Number of participants in the Delphi rounds

	Invited	Acceptation	1st round	2nd round
Strategy	5	4	4	4
Research/Advising	2	1	1	0
Media agency	6	5	5	4
Expert in digital TV	9	7	7	6
Technological zone	2	2	2	2
Ads agency	1	1	1	1
Academics	6	5	5	4
Multinational advertiser	3	1	1	1
Total	34	26	26	22

Table 2a. Profile of the survey (n = 26)

Professional profile	Frequency	Training level	Frequency
Academics	5	Pre degree	3
Ads professionals	12	Engineering degree	12
Technological professionals	9	Master	1
		Doctorate	10
Gender	**Frequency**	**Age**	**Frequency**
Men	18	30-39	5
Women	8	40-49	11
		50-59	9
		60 or more	1
Current position	**Frequency**	**Type of organization**	**Frequency**
Professor	5	Universidad	7
Manager (President, Chairman, CEO, etc.)	9	Ads/MK/Communication agency	7
Middle position (CSO, CCO, Dircom, PM, etc.)	12	Media agency	5
		Enterprise	3
		Association	2
		Research institute	1
		Mass media	1

Table 2b. Profile of the survey (n = 26)

Years of experience in the current enterprise	Frequency	Years of enterprise experience total	Frequency	Country	Frequency
1-4	8	5-9	1	Spain	18
5-9	6	10-14	4	France	1
10-14	2	15 or more	21	Belgium	1
15 or more	7			United Kingdom	1
				Germany	1
				USA	1
				Singapore	2
				Australia	1

The online questionnaire was tested among 12 people (6 professionals in advertising and information technology, and 6 academics) analyzing the current advertising model, interactivity and advertising effectiveness, television advertising, technology and advertising and an open section. The second exploratory phase was implemented in two rounds (**Landeta**, 1999; **Okoli**; **Pawloski**, 2004).

A content analysis emerged from the first questionnaire (**Berelson**, 1952; 1967), a synthesis that led to the second questionnaire, validated among 12 other people with profiles similar to the previous 12. The questionnaire was sent back to the panelists, explaining the findings and requesting that they assess their initial positions on the sample responses. Finally, a statistical analysis of the data was developed.

4. Results

The research aims to determine the perception by professional and academic experts of the sector about the relationship between television and advertising. Within the section on television, which seeks to agree on possible developments in this medium in the coming years, four questions were asked that allow us to glimpse their future, as can be seen in the summary table 3.

The group of experts, before the question "what will be the role of television in the next three years?", evaluated the most mentioned items in the first round of Delphi:

- "basic medium for advertising";
- "will continue to provide broad coverage at key moments";
- "smart and on demand television";
- "entertainment source reserved only for the display of major events, information and news"; -"specialized in the senior target", and
- "less relevant than today."

Of these, the one that generated the greatest consensus as a potential role for television in the next three years was "will continue to provide broad coverage at key moments", having the highest weighted average (4.5) and being the most valued in the Top two box (Ttb) of answers (63.6%). Secondly, the answer "smart TV on demand" was placed (4.36, 40.9%).

The spectacular and the effectiveness of the television live in special events explains the relevant role of the coverage, which is also performed for a few years to this part through social networks, although with certain conditions, such as audio-visual fluency on *Twitter*, the most immediate option in time to inform yourself.

The privileged position of the concept of smart TV on demand combines the idea of Smart with the elective government of the viewer, which demands video on demand (Video on Demand), since it allows access to multimedia content in a personalized way. The fact of requesting and viewing a particular movie or content has been set in the collective imagination of an increasingly atomized audience.

On the other hand, the items "basic medium for advertising" and "less relevant than at present", with a weighted average of 2.86 and with a high Bottom two box (Btb) (54.5%), were constituted as the alternatives of least potential. The growth of the Internet as the axis of individualized advertising insertions, and with more reliable metrics, can explain this moderate perception as an essential advertising medium, which illuminates a possible gap. The tendency to lower relevance reflects a general feeling, both in the professional and academic fields. We confirm H1 (television will be adapted to provide coverage at key moments).

> "Television will be adapted toprovide coverage at key moments"

In the second question, which refers to "how will television be consumed?", The group of experts focused on the following modes of consumption:

- "from different screens and through the Internet",
- "individual consumption and on demand",
- "via streaming",
- "pay per view on demand" or
- "on large screens".

Among the alternatives mentioned, the most agreed among the experts with the greatest potential was "individual consumption and on demand" (3.91; Ttb = 72.7%), followed by "from different screens and through the internet" (3.68; Ttb = 54.5%). On the other hand, "on large screens" has been the alternative with the lowest potential (1.64; Btb = 72.7%) among all alternatives.

The plot line in favour of individual and à la carte consumption and of the multiscreen environment and of hybridization with the Internet supports these answers. In the Broadband Society, the user aspires to a universal connectivity and a guarantee of it. Versatility when accessing television content is a congenital feature of the viewer. In contrast, the screen size is in the background, since the proliferation of small-sized terminals is accustoming the viewer to relativize the large screen. Availability and ad hoc priority are given to the spectacular nature of the terminal. We validate H2 (The television consumption will be on demand and multiscreen).

In the third question, whose interest is to understand which advertising formats will predominate on television, the following items from the previous phase were evaluated,

- ”sponsorships”,
- ”branded content”, -
- “conventional spot advertising”,
- ”product placement”, and
- ”short, interactive and personalized formats”. The group of experts stressed that the formats that are likely to predominate on television will be “branded content” (3.55; Ttb = 50%) and “conventional advertising” (3.27; Ttb = 54.5%). In contrast, the “sponsorships” (2.55; Btb = 50%) received the consensus of being the TV format that will surely not have a predominant role.

The tendency of the answers presents logic, since the increasing addressability approaches the content to the brands, in a species of native advertising adapted to the hybrid and interactive television culture. The viewer refuses an interruptive dynamic, in favour of proposals appropriate to the desired content and the chosen moment. It may surprise the weight of conventional advertising, but it is understood if we consider that the processes of mediamorphosis are progressive, which is a safe-conduct for conventional advertising and, less so, based on the results, for sponsorships. In sum, we confirm H3 (There will be an adaptations of TV formats, fostering branded content).

> “The television consumption will be on demand and multiscreen”

The last question in this section explored how and to what extent changes in future television will condition the advertising profession. The group of experts evaluated the following items that emerged in the preliminary phase:

- ”the advertising profile must be completely hybrid”;
- “the message will have to be adapted more and better to the environment”;
- “television must take into account digital channels”;
- “mathematical and statistical knowledge to know better segment and customize”;
- “more will be known about tv audiences”;
- ”integrated marketing will be even more important”, and
- ”you can buy faster with shorter delivery times and better guidance.”

Of all of them, the item “the message will have to be adapted more and better to the medium” (4.95; Ttb = 31.8%), “television must take into account digital channels” (4.77; Ttb = 54.5%) and “the advertising profile must be completely hybrid” (4.73; Ttb = 45.5%). On the other hand, a consensus item that does not attach much importance is the one that advocates the need for “mathematical and statistical knowledge to better know how to segment and customize” (2.45; Btb = 59.1%), followed by the item “can be purchased more quickly with shorter delivery times and better orientation” (3.23; Btb = 50%).

The weight of the adaptation of the message to the medium is linked to specialization, branded content and hybridization: given the plurality of terminals and ways of receiving the contents, the message must adapt to the medium, and not vice versa. In the same way, the television medium must consider digital media, as it is already being carried out with HbbTV. Hybridization between television and the Internet is transferred to advertising profiles.

Interestingly, the slope of mathematical and statistical knowledge to optimize segmentation and personalization is a skill that will probably grow over the years, as well as the fastest purchase option with narrower delivery times and better guidance, linked to e-commerce. Even to mobile commerce. However, they are not perceived as relevant by the group of experts. We validate H4 (The audio-visual languages will be adapted to interactivity and to the digital culture).

To analyze the representativeness and variability of the responses obtained in this section, we have selected the standard deviation as an indicator, resulting in 3 average standard deviation in the attributes analyzed in section C.

> “The audio-visual languages will be adapted to interactivity and to the digital culture”

5. Conclusion and discussion

The paths of advertising and television will go hand in hand in the future, with some adaptations to the hybrid and interactive culture scenario (**Fondevila-Gascón** *et al.*, 2015). That is the main conclusion of Delphi. The fact that television continues to provide wide coverage at key moments maintains the essence of the medium, whose trajectory rescues the original values at certain times.

Smart TV on demand is consolidated. The viewer is increasingly selective, has limited time, is supported by second or third screens, and therefore the option on demand is necessary. Programmers are aware of this, and respond with new offers that allow access to content at the desired time.

Table 3. Results about television and advertising

SECTION C - About advertising on television	Weighted average	Standard deviation	Top two box (Ttb) answers	% Top two box answers	Bottom two box (Btb) answers	% Bottom two box (Btb) answers
P.8 What will be the role of television in the next three years?						
Key media for advertising	2.86	3.72	7	31.8%	12	54.5%
Continue providing large coverage at key moments	4.50	3.18	14	63.6%	5	22.7%
Smart tv and on demand	4.36	3.24	10	45.5%	0	0.0%
Source of entertainment solely for the visualization of large events, information and current news	3.55	3.44	3	13.6%	7	31.8%
Specialized in the senior target	2.86	2.61	4	18.2%	8	36.4%
Less relevant than nowadays	2.86	2.48	5	22.7%	12	54.5%
P.9 How will television be consumed?						
From different screens and through the internet	3.68	3.85	12	54.5%	6	27.3%
Individual and on-demand consumption	3.91	3.63	16	72.7%	3	13.6%
Vía streaming	3.50	3.93	12	54.5%	3	13.6%
Payperview on demand	2.27	3.80	2	9.1%	14	63.6%
Big screens	1.64	5.76	2	9.1%	16	72.7%
P.10 What advertising formats will predominate television?						
Sponsorship	2,55	2.85	7	31.8%	11	50.0%
Branded content	3.55	2.97	11	50.0%	5	22.7%
Atl adversiting – commercial ads	3.27	3.53	12	54.5%	8	36.4%
Product placement	2.73	2.54	6	27.3%	10	45.5%
Short, interactive and personalized formats: bumper…	2.91	2.27	8	36.4%	10	45.5%
P.11 How and to what extent will television changes affect the job of advertisers?						
The advertisisng job profile must be completely hybrid	4.73	2.34	10	45.5%	6	27.3%
Adapt more and better the message to the medium	4.95	2.34	7	31.8%	3	13.6%
Television must take into account digital channels	4.77	1.77	12	54.5%	0	0.0%
Mathematical and statistical knowledge to know better segment and customize	2.45	2.79	1	4.5%	13	59.1%
You will know more about TV audience	3.73	2.08	5	22.7%	6	27.3%
Integrated marketing will be still more important	4.00	1.68	5	22.7%	5	22.7%
Be able to purchase more quickly with shorter delivery times and a better orientation	3.23	2.19	4	18.2%	11	50.0%
3,00 Mean standard deviation						

Note: Top two box (Ttb) answers are equivalent to the sum of answers that correspond to "very important" and "important", instead the Bottom two box (Btb) to "nothing important" and "unimportant". The consensus criterion implies a minimum of 40%, for both variables.

Another finding of Delphi is the moderation of television as a basic medium for advertising and, consequently, less relevance in the coming years. Empirical data indicate that the advertising transfer of television to the Internet is accentuated, which supports the suitability of solutions on the HbbTV, which combines the virtues of both media. The quoted individual and on demand consumption are in the spinal cord of the interactive standard, that of the different screens and the Internet. Hybrid logic acquires enormous relevance at this point.

Advertising should be adapted in languages (**Fondevila-Gascón**; **Botey-López**; **Rom-Rodríguez**, 2017) to increasingly personalized content. Hence, branded content leads the forecasts of specialists, which, however, do not sink to conventional advertising, to which they grant an even long trajectory.

As for the conditions for the advertising profession, the adaptation of the message to the medium will boost the creative area, imbued in the phenomenon of digitalization and hybridization. The need for more mathematical and statistical knowledge, now undervalued, will be consolidated over time. In fact, in the curricula of advertising and marketing, and

also of journalism, the weight of mathematics and statistics grows to respond to the challenges of industry 4.0, that of artificial intelligence and big data. Delving into the implications of factors such as these is an attractive future research line, as well as studying results of similar campaigns in different waves.

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