

# Delphi Study on the evolution and prospects of the advertising programmatic buying in Spain

## *Estudio Delphi sobre la evolución y perspectiva de la compra programática de publicidad en España*



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**Abstract:**

This article evaluates the phenomenon of programmatic advertising in Spain. Programmatic advertising automates the media planning process, and improves efficiency and effectiveness for the purchase and sale of advertising space. The main objectives of the study are: to establish consensus regarding a definition of programmatic purchase; to understand the new professional roles required as a result of this boom in technology, and to ascertain how the sector will develop in the future. The research technique used was the Delphi method. The research results relate to the current situation, evolution and perspectives of the phenomenon, with special emphasis on lack of specific training, lack of transparency and distrust in the inventory as the main obstacles that limit the development of this technology in our country.

**Keywords:**

Digital advertising, programmatic advertising, data analysis, professional profiles, media planning.

**Resumen:**

En el presente artículo se aborda el fenómeno de la publicidad programática en España. Un sistema que automatiza el proceso de planificación de medios y mejora la eficacia y eficiencia en la compra de espacios publicitarios. Los objetivos principales son: establecer una definición consensuada de compra programática, conocer los nuevos roles profesionales que se demandan con el auge de esta tecnología y plantear una prospectiva sobre el futuro del sector. La técnica de investigación utilizada fue el método Delphi. Los resultados de la investigación hacen referencia a la situación, evolución y perspectivas del fenómeno, haciendo especial hincapié en falta de formación específica, falta de transparencia y desconfianza en el inventario como los principales frenos que limitan el desarrollo de esta tecnología en nuestro país.

**Palabras clave:**

Publicidad digital, publicidad programática, análisis de datos, perfiles profesionales, planificación de medios

## 1. Introduction

The emergence of new technologies has produced a notable change in the productive fabric affecting most professional and scientific fields. In advertising, the first effects were seen with the rise of digitisation. The availability of desktop publishing software caused the progressive elimination of jobs related, in the main, to graphic and audio-visual production. Years later, the gradual implementation of networks led to changing roles within the profession, and also the redefinition of the advertising system itself. Thus, for Beatriz Corredor (2011: 99):

*The explosion of digital networks is not simply shaking up the media landscape and the search for new business models but is also a driving force that affects the entire value chain, an aspect which has a direct impact on advertising, both in its role as a funder of old and media, and on the very nature of advertising.*

Going deeper into this phenomenon, José Luis León, cited by Fajula and Roca (2000), states that the Internet not only plunged the concept of advertising into crisis, but proposed 'a fundamentally hybrid advertising, like the very media which it embraced'.

We find ourselves, therefore, in a context in which advertising is mutating. The model of persuasive messages addressed to large crowds is moving towards increasingly fragmented audiences. Information, entertainment and advertising are being combined, and advertisers send messages in a digital landscape overcrowded with brands, services and products. Now the ability to attract consumers is based not solely on content, but also on communication and the relationships created

between users and brands. This created the breeding ground for the emergence of programmatic advertising, which arose as a consequence of the automation of buying/selling spaces using modern technology.

These circumstances compel advertising agencies and the media ‘to have professionals with the skills to create, transform and distribute information in different media, both traditional and digital’ (Álvarez-Flores, et al., 2017: 137). This increases the demand for professionals capable of working collaboratively and remotely, managing different social platforms, and also interpreting and managing large volumes of data.

The present work is based on the following hypothesis: ‘Programmatic buying entails a change in the roles and functions of the media agency. Its development will lead to the reconfiguration of the landscape of the sector, permitting the entry of new agents, and encouraging the emergence of new professional job profiles and the disappearance of others’.

Based on this premise, and in order to understand the programmatic advertising sector and its expansion in the future, we will study the evolution of display advertising from its beginnings, and conclude by describing the scope of automatic purchase of media and audiences. This phenomenon changes the parameters of the advertising ecosystem by modifying in particular the role and function of the digital media planner.

After presenting the current state of play, we will apply the appropriate research methodology to achieve the following objectives:

- Present a terminological consensus on the concept of programmatic advertising.
- Understand the new professional roles that are emerging with the rise of the automated purchase of advertising space.
- Study the coexistence of the digital media planner with the new professional roles that are required.
- Present an assessment of the future of the sector.

### *1.1. Evolution of display advertising*

On October 27 1994, the history of advertising changed forever. *Hotwired*, the online version of *Wired* magazine, published the first banner, a small graphic in which an enigmatic text appeared: ‘Have you ever clicked your mouse right here?’ (Sánchez & De Frutos, 2007: 160). The piece – which advertised AT&T technology – was new and intriguing, and enticed 44% of those who saw it to click on it (King, 2012: 122). *Hotwired*, which had no idea of the amount of traffic that could be attracted, nor had any socio-demographic data regarding its audience, charged \$30,000 for 3 months of publication. Surprisingly, it quickly received requests from other advertisers such as MCI, Volvo and Sprint (Medoff & Kaye, 2016: 72).

Craig Kanarick, one of the digital consultants hired to work on the campaign, recalls that the team’s goal was to make an announcement that did not feel like an advertisement (Cook, 2016) and that genuinely offered users valuable content. ‘Let’s not sell somebody something,’ he recalled thinking, ‘Let’s reward them for clicking on this thing brought to you by AT&T.’

As Boone, Secci and Gallant (2010) note, advertising spaces were sold based on cost per thousand impressions (CPM) from the time that the first banner appeared until the end of the 1990s. This was not a new purchase method, given that

it was common in print media (Madinaveitia, 2018). Nonetheless, many sites and portals that attracted a large audience used it as a pricing method.

Another format emerged at the end of the 1990s, which has generated considerable controversy since it was launched. This was the pop-up, which the Interactive Advertising Bureau defined as 'a type of floating format that appears on the user's screen in an independent window or over the website content' (IAB, 2004: 12). Initially, they were considered a response to the sharp decrease in click ratios (Chaterjee, 2008: 53; Cho, Lee & Tharp, 2001), but they soon became a nuisance (Edwards, Li & Lee, 2001), which triggered the development of pop-up blockers.

At the turn of the 21st century, another remarkable phenomenon occurred: the explosion of search engines. Back in 1998, Goto.com became the first site to launch an advertising auction for keyword searches. However, although considered groundbreaking in that it launched the pay-per-click (CPC) system, it was perceived as lacking transparency because it rewarded the advertisers who invested more rather than content relevance (Cook, 2016). In 2000, Google launched the AdWords programme, fine-tuning it two years later and adding quality-based allocation, which allows ads to be ordered by combining not just the bid price, but also their popularity (Jansen & Mullen, 2008: 119).

However, until that point, as the IAB notes (2014: 8):

*The ecosystem of buying and selling media was very simple: advertisers (and agencies that began to position themselves in the online medium) directly bought positions or impressions from existing media. Soon it became evident that supply exceeded the potential demand and the available inventory increased daily.*

In parallel, after the revolution of search engine advertising, the next milestone came from the social networks. These platforms gained strength during the first decade of the 21st century, and quickly came to the attention of advertisers, because they went beyond traditional media, offering the potential not only for accessing information but also for sharing and interacting more effectively. For authors like Alhabash, Mundel and Hussain (2017: 286) advertising in social media 'is a piece of online content, designed with a persuasive and/or distributional intent through social media platforms that allows Internet users to access, participate, add and co-create'.

Facebook began working with advertisers in 2006, initially by inserting links (Text-links) and small images. Later, they implemented a system that segmented users according to socio-demographic characteristics and interests.

As of 2010, some platforms, including BuzzFeed or Mashable, opened up new options for advertisers to connect with the audience using sponsored content and native advertising (Cook, 2016). The IAB (2015: 2) defines it as 'that which is integrated into the natural content of the page (...) allowing the brand to be present in the publication in a more harmonised way with the rest of the content than other advertising systems'. The format, which has considerable interest for brands and media, 'blurs the division between editorial functions and advertising, which has generated some controversy' (Carlson, 2015: 158).

## 1.2. Programmatic advertising

Between 2007 and 2010, ad exchange platforms emerged, many of them dependent on giants of the sector such as Yahoo, Google or Microsoft (Schmid, 2017). In addition, as the IAB (2014: 9) notes, ‘media agencies are beginning to develop capabilities and technologies to channel a large part of the online investment of advertisers’. More precisely, the technological evolution, which expands the possibilities of extracting and benefiting from the information that is generated through advertising. According to González and Mochón (2016: 7), technological advances are responsible for promoting a new paradigm in which programmatic advertising is gaining prominence. These advances are represented by: the increase in connection speeds; expanding computational capacity that allows large volumes of complex data to be managed; cost reductions; the application of scientific methods in marketing (algorithms, mathematical models, artificial intelligence, machine learning, etc.); user recognition systems, and processes that allow advertising space to be bought and sold in real time (Stange & Funk, 2014: 305).

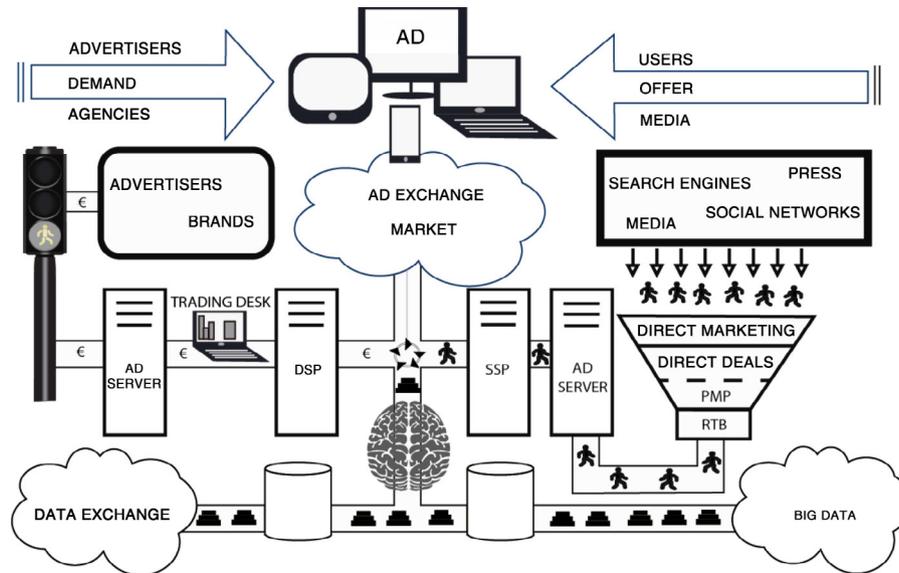
Álvaro Cristóbal, Global Director of Strategy and Operations at Rebold (2018), defines programmatic buying as:

*A digital marketing discipline through which spaces are purchased systematically and automatically, and which always involves two elements: technology, which allows us to automate the purchase process 24 hours a day, 7 days a week, and data, which allows us to inform said technology of the degree of relevance of each impression in order to make decisions.*

For Nacho Carnés, UFV collaborative professor and expert in digital marketing (2018), the programmatic purchase is “a new media buying system that involves the automation of an advertising inventory”. The programmatic “gives the advertiser the ability to reach and impact the right user, regardless of the device, at the right time, on the appropriate website and using a personalized message based on the historical data.” Data plays an absolutely relevant role and, as pointed out by Malthouse, Maslowska and Franks (2018: 6) “data is at the heart of computational approaches. The more data the program models have, the better the personalization of the advertisements”.

The programmatic ecosystem is formed by the demand side (purchase) and the supply (sale) side. Let’s analyse each of its components (IAB, 2014: 20; Carrillo-Durán & Rodríguez, Silgado, 2018: 197-198):

**Table 1: The Programmatic Buying Ecosystem**



Source: Own elaboration from Rodríguez (2017)

- Purchase (Demand side: advertisers, agencies, traders, DSPs, ad exchanges)
  - Advertisers: They offer and buy impressions. They set the campaign budget, define the target audience and provide the creative materials. They usually hire the services of a media agency or operate directly by dealing with SSPs or media.
  - Media agencies: Traditional intermediaries in the sector. They are responsible for attaining the client's objectives. They manage the budget for investing in whichever DSPs, ad exchanges, networks, etc. that they consider most opportune for the campaign's success.
  - Trading Desk: A group of traders that prepare, launch and optimise the different purchase strategies for the campaigns (retargeting, prospect, branding, specific purchase, contextual, etc.). They can connect with several DSPs or manage closed agreements with advertising media or networks (Direct Programmatic). They work either within agencies or independently.
  - Demand Site Platform (DSP): This is a bidding technology that allows advertisers and/or agencies to buy inventory at different exchange locations. The bid is done in real time using data from the audience and is popularly known as Real Time Bidding (RTB). The purchase method is Cost Per Thousand, also called Cost Per Mile (CPM). For Adolfo Maceiras (2018), head of traders at BMIND, advertisers have always had some fear about where the ads appear and with what content of their brands is related. Because of this, most DSP's are integrated with different Brand

Safe tools. Apart from these tools, there is the possibility of uploading to the DSP a list of sites where we want to bid (whitelist). Also, there are blacklists where we indicate the sites where we do not want to appear.

- Ad exchange: This is a technological platform that allows a support platform to define the rules of the bid on the side of the seller, and the trading desk, define the rules of the buyer as well as manage bids. They can be open (there are no restrictions on advertisers or buyers) or private (restricted to a few media and advertisers).
- Sale (users, supply, media ...)
  - Platforms: Content publishers prioritise direct sales through their traffic managers. On the programmatic side, they work using deals, with a fixed price and a guaranteed inventory, and also through a private marketplace (PMP).
  - Advertising networks: They work in a similar way to platforms. The main difference is that they represent several publishers and can also act as buyers of impressions in the ad exchange.
  - Supply Side Platforms (SSPs): Technological platforms linked to the support side (media). They allow automated access to sources and aggregators. According to Paz Calvo (2017) support platforms need to have this integrated technology in order to establish a relationship with the DSP that integrates agencies and advertisers. The SSPs need, on the one hand, to establish the minimum bid price for the inventory (hard floor) and, on the other, to set a series of rules at the advertiser level: technical attributes, permitting or avoiding certain categories (for example, sex, tobacco, etc.).
- Other actors
  - Data providers: Data providers with the capacity for directing data to brands and their media actions. The large data platforms, called DMPs, 'collect, integrate and manage large amounts of structured and unstructured data' (IAB, 2014: 18). The data comes from their own, or external, sources. External data sources can be secondary (agreements with partners) or third party data, collected from an external provider such as Amazon or Zeotap.
  - Ad verification: Companies that offer technology that prevents the advertising from appearing on undesirable sites. The pieces are tracked through pixels.
  - Brand safe: Process that permits a guarantee of the impression's quality. Tools like IAS, MOAT, DoubleVerify, Fraudlogix or Picalate allow us to know the "Brand Score" or valuation of our campaign. These technologies report the sites where we appear, visibility of the pieces, degree of interaction of the public, heat maps and an infinity of metrics.

After analyzing the agents involved in the programmatic purchase, we will describe the different purchasing models that exist:

- Open auction: Auction where support and advertiser are not known. In this case, the advertising inventory is not guaranteed and the bid have a variable price. In this modality, brands safety tools have a fundamental role.
- Programmatic Guaranteed (PG): The inventory is guaranteed and is sold at a fixed price. It is known as Deal. It is a traditional purchase with some automated processes.
- Preferred Deals (PD): Private agreements between support and advertiser at a fixed price but with an unsecured inventory.

- Private auction / Private Market Place (PMP): Private exchange point where the media sell their inventory, normally, in vertical channels (for example, specialized in travel or motor). The system allows you to buy an unsecured inventory through a variable bidding system.

To activate an open auction campaign, the first step is to choose the platform. Then we establish the investment, the objective and the configuration of the tools that guarantee transparency (blacklist and brand safety). Subsequently, the category and audience of the places where the advertising will be inserted is chosen. Once the campaign is underway, we proceed to optimize it according to the response data of the audience. In the case of private agreements, the procedure changes a bit because it is necessary to configure the agreement on the demand platform (DSP) and select it as a campaign orientation.

The implementation of these technologies is not without controversy. According to Papadopoulos et. al. (2017), 'the collection of users' personal data has become more aggressive and, in some instances, even intrusive, generating a huge public debate about the advantages of innovation in advertising, and basic civil rights with respect to privacy and personal protection'.

### *1.3. The transformation of job profiles*

The irruption of new technologies, especially the Internet, has transformed the media system. Several academic authors have been interested in this change process and its influence on the advertising sector: Castellbanque (2006), Corredor (2011), Del Pino et al. (2014), Garrido, Fernández and Baños (2014), Martín-Guart and Fernández-Cavia (2014).

According to Carcelén, Alameda and Pintado (2017: 1664), 'there is no doubt that technology has transformed marketing within companies, and digital marketing actions have taken on a predominant role in the way companies reach consumers'.

It is a real and remarkable phenomenon, which has had a considerable influence on advertising and its structure, but which has also changed the expectations of brands. Picard (2014: 1079) notes that 'the biggest advertisers are limiting their advertising budgets today because they find them less effective than in the past owing to return and investment issues'.

In this changing environment, according to the Advertising Observatory of the Spanish Association of Advertisers (AEA, 2017), 103,600 people were active in the advertising and market research sector in 2016; of these, 90,000 were employed, and 72,600 were salaried workers. This was an increase of 15.6 per cent over the previous year.

Albeit that this employment data indicates a positive outlook, the AEA (2017: 26) signals the dynamism of the sector where 'digitisation, management of brand content, big data, the attention of individual and social media, are propitiating the appearance of new labour demands that translate into new job profiles'.

According to the Ministry of Industry's White Paper for university degrees in the framework of the digital economy (2016), big data is one of the principle trends. The proliferation of data and its complexity 'demand profitable solutions and innovative forms of information processing to improve understanding and decision making in companies'.

INESDI's Top 25 Study of Digital Professions (2018: 12–13) highlights nine broad areas where digitisation is particularly influential. According to this report, there has been a demand for professionals responsible for conversion and

programmatic recruitment (RTB managers) in the field of digital marketing since 2016. Moreover, there has been a demand for digital analysts, big data analysts, customer intelligence analysts and CRM managers in the big data and business analytics segment since 2014. This study also asserts that there has been a demand for digital account managers since 2017, although industry sources claim that this job profile has existed for at least a decade.

The results of the study show that 38 per cent of job offers are in the field of digital marketing (INESDI, 2018: 15). However, there is a decrease in demand due to increasing specialisation and the growth of other segments such as digital content (+9 percentage points).

There is, therefore, awareness that the reality of the new media is creating a different scenario. For the advertising industry, the emergence of technologies such as programmatic and big data require the coexistence of classic advertising job profiles with others associated with digital skills that are not necessarily linked to commercial communications.

This situation should not go unremarked by universities that offer communication studies. For Wymbs (2011, 2016), cited by Carcelén, Alameda and Pintado (2017: 1666), 'the University needs to make a profound change in the teaching of disciplines related to marketing and communication, including subjects related to the digital age and data analysis'.

These new circumstances require, therefore, the design of curricula that are consistent with the demands of the digital environment, providing students with tools for working in an increasingly competitive labour market.

## 2. Methods

### 2.1. *The selected technique*

The Delphi method is 'an evaluative research method with a qualitative approach that seeks a consensus of opinion from a group of experts on a series of specific issues' (Del Río, 2013: 138).

According to Gaitán and Piñuel (1998: 136), these experts are questioned successively, and separately, during a series of rounds.

This technique propounds, according to Barranco (1995), a prediction of events in the sector in question, the classification of these statements by the researcher and a succession of individual questions to each of the experts, combined with information from other experts via the researcher. Although it is not properly a conversational method, the Delphi method has a dialogic dynamic in which researchers play a mediating role. For some authors, it is midway between the group discussion, the interview, and the survey (Ruiz Ispizúa, 1989, Gaitán and Piñuel, 1998: 137).

This method has been complemented with in-depth interviews with three important experts in the sector. Their participation serves to validate the questionnaires and the results obtained.

### 2.2. *Process*

After determining the study's objectives, the first task was to contact the experts. This was carried out by the study's coordinating group, formed by the three researchers who authored it, and three professionals with extensive experience

in the field of digital marketing and programmatic advertising: Álvaro Cristóbal de Rebold, Gonzalo Galván (BMIND) and Mikel Lekaroz (OZ Digital and Adbibo Tech).

During a two-week period, the researchers (with the help of the rest of the coordinating group members) rang and emailed different agents in the sector (advertisers, media agencies, media and new operators such as DSPs and Trading Desks) as well as professors and academics who had previously conducted research in the field of advertising and digital marketing. The selection criteria for the sample were based, firstly, on the interviewee's skills and experience and, secondly, in order to give voice to all the agents of the digital advertising ecosystem related to programmatic buying. They were informed of the approximate duration of the process and how the information would be used. They were motivated by an explanation of the potential benefits of the study both for the academic environment, and also in the professional field.

After the round of contacts, a total of 25 invitation emails were sent to the panel of experts. These emails provided information on the study, its objectives, the dynamics of the question rounds, and solicited the express confirmation of participation in the study. There were 20 affirmative responses to this email; two people, however, were obliged to resign despite being willing to collaborate owing to confidentiality clauses signed with their employers. It should be noted that programmatic purchasing is an emerging sector, which is changing continuously and which is characterised by strong job mobility. People working at consultancies and agencies are subject to specific, restrictive regulations regarding their statements that limited our study. In fact, some of the respondents who agreed to participate insisted on the anonymity of their responses.

In the end, the sample consisted of 18 professionals and academic experts in programmatic advertising. Represented in this study are: digital media agencies (OMD, Performics - Publicis Groupe); agencies specialising in programmatic buying (Rebold, Wise Advertising); trading desks (Havas Programmatic HUB - PMP, The Trade Desk, Adbibo Tech, BMind); technology providers (DSP-SSP) such as Smartclip, AppNexus-Xandr and OZ Digital; advertisers; support platforms; independent consultants, and university professors specialising in digital marketing at the Universidad de Francisco de Vitoria and the Complutense University of Madrid.

After the sample group was selected and confirmed, the first questionnaire, which consisted of five open questions, was sent out. It should be noted that the first question (Q.1: *Define programmatic buying. Description of the system and differences and similarities with RTB*) was not used in the Delphi because its purpose was to gather theoretical information regarding the object of the study in order to achieve a clear and unambiguous definition of programmatic advertising and its relationship with Real Time Bidding. For this reason, following the recommendations of Correyero and Baladrón (2008: 66), 'the confidentiality of the answers to this part of the questionnaire was guaranteed, and the researchers committed to not using them in later stages of the iterative process'.

**Table 2: List of questions in the first questionnaire**

Nº	Question	Objective
1	Define programmatic buying. Description of the system, and its differences/similarities with RTB.	Exploratory question. A standardised definition of programmatic buying and how it differs from RTB was sought.
2	How has programmatic buying evolved in Spain compared to other markets?	Understand the evolution of the Spanish market vs. the rest of the world.
3	Which job profiles are in demand in the field of programmatic buying?	Understand the demand for job profiles in the sector.
4	Are university degrees in communications (advertising, audiovisualcommunications, etc.) providing adequate training for creating and managing programmatic advertising campaigns? As well as graduates in Communications, which other university disciplines are useful for programmatic advertising?	Understand whether university education responds to programmatic requirements.
5	What is the future of the sector over the next few years? How will the traditional media planning job profile change?	Understand the outlook for the future of the sector and the role of the traditional media planner.

Source: Compiled by the authors.

The first questionnaire was analysed in detail by the coordinating group, finding consensus on one of the four questions that were applied in the Delphi. As we have already pointed out, question 1 (Q.1) was exploratory, with the aim of obtaining a clear definition of some key concepts relating to the phenomenon being analysed. The answers to question 3 (Q.3) reached a very high degree of consensus, as we will show in the presentation of results.

In the second round, the complete expert sample was selected. In this phase, the three questions that had elicited the most dissent among the participants were reformulated (Q.2, Q.4 and Q.5). This time, we chose closed-ended questions with either a dichotomous response (Yes/No) as in the case of Q.2.1, or a choice of responses with check boxes (Q.2.2), or an evaluation using a scale (from 1 = strongly disagree to 5 = strongly agree) for questions Q.2.2, Q. 4.1, Q. 4.2, Q.4.3 and from Q.5.1 to Q.5.6.

Fourteen experts returned their answers in the second round.

Table 3: List of questions in the second questionnaire

Nº	Question	Specific questions
2	The group gave different responses to the question: <b>How has programmatic buying evolved in Spain compared to other markets?</b> In order to examine this question in greater depth, and obtain results that clarify a consensual future vision of the sector, we asked two additional questions.	2.1 Do you believe that the programmatic buying business is growing very rapidly in Spain? Linear scale from 1 (strongly disagree) to 5 (strongly agree). 2.2 Indicate possible causes for the slow growth of programmatic buying in Spain in comparison with other countries. Choose between the following possible causes: lack of transparency in the negotiation, lack of confidence in the inventory, lack of programmatic training, lack of innovation and strategies from advertisers and media, technological costs, economic factors, data quality and direct agreements between agencies and advertisers which hinder programmatic development.
4	The panel provided a unanimous response to the question: <b>Are university degrees in communications (advertising, audiovisual communications, etc.) providing adequate training for creating and managing programmatic advertising campaigns?</b> The panel all agreed that there was very little or no training. Yes, specific programmes and classes exist, which should be expanded. Given this situation, and if you were an educational manager for a communications degree programme, how would you include programmatic training?	4.1 As a compulsory subject in the curriculum. Linear scale from 1 (strongly disagree) to 5 (strongly agree). 4.2 As an optional subject in the curriculum. Linear scale from 1 (strongly disagree) to 5 (strongly agree). 4.3 This is not appropriate for a communications degree and should be taught as part of a degree in computer studies, engineering or business analytics. Linear scale from 1 (strongly disagree) to 5 (strongly agree).
5	There was consensus regarding the question: <b>What is the future of the sector over the next few years?</b> The panel agreed that there would be expansion to other media and devices in the future. With regard to the second part of the question – <b>How will the traditional media planning job profile change?</b> – we consider it appropriate to specify which aspects should be strengthened for effective job reorientation.	5.1. Specific training focused on analytics and data management. 5.2. Commercial tasks with extensive knowledge of the programmatic ecosystem. 5.3. Campaign optimisation tasks. 5.4. Specialisation in ad server management and creative traffic. 5.5. Integration of mixed groups formed by advertising and marketing experts and technologists. 5.6. The person must retrain to pursue a programmatic career. Linear scale from 1 (strongly disagree) to 5 (strongly agree).ç

Source: Authors' own.

After round 2, the results were analysed, and consensus was found in most questions. Hence, the questionnaire was completed.

### 3. Results

We have presented the current state of affairs, the study's questions, objectives and hypotheses, and justified the object of the study. We have also detailed the methodology used including the technique, sample size, fieldwork and how the data obtained was processed. We now present the most remarkable results.

#### 3.1. (Q.1) Defines programmatic buying, description of the system, and how it is different or similar to RTB.

As noted in the method section above, Q.1 is not framed within the selected methodology, but the responses from the panel of experts allow us to address an essential definition of the phenomenon and its role in the advertising ecosystem. Most panel members agreed that programmatic purchasing is an automated system for buying advertising space. Originally, the process was designed for online media and platforms but, currently, it is offloading traditional media such as radio or television.

The method emerged from the shift in focus from buying based on the size of a like-minded audience, which is reached and impacted, to a user-centric approach. In the latter, data plays a fundamental role, because it identifies user profiles and behaviours, and also helps to personalise the advertisement's message and the content displayed.

Experts agree that there is some terminological confusion with regard to the different types of programmatic purchasing. Real Time Bidding (RTB) is one type of programmatic purchase method, but it is not the only one. The confusion arises because RTB is the longest-established, and most frequently used, method. However, it only refers to an auctioned inventory. If the advertising inventory is not auctioned, it is called Programmatic Direct and there are two modalities: guaranteed (Programmatic Guaranteed or PG) and, if not guaranteed, it is called Preferred Deals (PD).

#### 3.2. (Q.2) How has programmatic buying evolved in Spain compared to other markets?

There was no consensus in the first round of questions; therefore, it was extended with two questions in round 2.

##### 3.2.1. Do you believe that the programmatic buying business is growing very rapidly in Spain?

Table 4: Descriptive statistics of the question (Q. 2.1)

Question	Median	Media	Standard Deviation
Do you believe that the programmatic buying business is growing very rapidly in Spain?	2	2.21	0.93

Source: Authors' own.

Bear in mind that the value 1 equals 'strongly disagree', and 5 equals 'strongly agree'. We can conclude from these results that the panel of experts considers that the development of programmatic advertising in Spain has not yet reached its maturity.

### *3.2.2. Indicate possible causes for the slow growth of programmatic buying in Spain in comparison with other countries.*

- There were eight response options. Selected after the analysis of the responses to Q.2 in the first round of non-consensus. After the analysis to the answers of the second round, more specific, these are the results:
- Lack of transparency in the negotiation(63.7%)
- Lack of confidence in the inventory (45.5%)
- Lack of programmatic training (100%)
- Lack of innovation and strategies from traditional media agencies and large media groups (45.5%)
- Technological costs (18.2%)
- Economic factors (18.2%)
- Data quality (27.3%)
- Direct agreements between agencies and publishers (27.3%)

For the panellists, the main reason for the slow growth of programmatic buying in Spain is the lack of specific training in the discipline. The second is the lack of transparency in the negotiation. Furthermore, the experts comment that there is distrust in the inventory and that the traditional media agencies and the large media groups, owners of the platforms, display a lack of innovation and strategy.

### *3.3. (Q.3) In the field of programmatic purchasing, which job profiles are in demand?*

The panel of experts agreed that analytical job profiles are required in the field of programmatic advertising, both workers who understand how to manage a platform (traders) as well as data analysts, who focus on the collection, use and exploitation of data and the optimisation of tools such as DMPs. In addition, computer scientists and programmers are needed to help integration between different platforms.

### *3.4. Are university degrees in communications (advertising, audiovisualcommunications, etc.) providing adequate training for creating and managing programmatic advertising campaigns? As well as graduates in communications, which other university disciplines are useful for programmatic advertising?*

The panel unanimously responded that there is currently little or no programmatic advertising training in university degree programmes. They did state that specific training exists in specialised programmes and courses launched by business schools and graduate centres. For this reason, a new question was formulated in the second round that allowed for a more extensive investigation into whether or not programmatic training should be introduced in university degrees in communication, and, if so, what type of training it should be.

The possibility of making it a compulsory or optional subject in communication degree courses, or eliminating it altogether, was evaluated.

When presented with these questions, the panellists stressed that training should be included in the curricula, at least as an optional subject to give students a basic training in this discipline.

### *3.5. What is the future of the sector over the next few years? How will the traditional media planning job profile change?*

In the first round, the consensus was that programmatic advertising would expand notably, particularly as it is exported to other media and devices. The second part of the questionsought to specify which aspects of the media planning job profile needed to be strengthened in order to ensure effectivetraining/retraining.To ascertain this, we asked the panel to assign a score on a linear scale to a series of statements.

#### *3.5.1. Specific training in analytics and data management*

The results showed that 54 per cent of the panellists were very much in agreement with the need for training in analytics and managing large volumes of data.

#### *3.5.2 Commercial tasks with extensive knowledge of the programmatic ecosystem*

The results showed that 72.8 per cent of panel members agreed or strongly agreed with this statement.

#### *3.5.3. Campaign optimisation tasks*

The vast majority of experts responded that specific training in programmatic campaign optimisation was essential.

#### *3.5.4. Specialisation in ad server management and creative traffic*

There was a wide range ofresponses to this question. However, agreement prevailed (54.5 per cent) regarding the requirement for knowingad server and creative traffic work processes.

#### *3.5.5 Integration of mixed groups formed by advertising and marketing experts and technologists.*

The vast majority of experts advocated the integration of technological job profiles (computer, programmers, analysts) with advertisingspecialists.

#### *3.5.6 The person must retrain to pursue a programmatic career.*

A large majority of panellists (72.7 per cent) strongly disagree with this statement.

### *3.6. Conclusions*

The programmatic, rather than the automation, of a manual task is a new way of online media planning. It has emerged from the confluence of several factors, including the increase in connection speeds and computer agility formanaging large volumes of data.

It is a very complex ecosystem, which can be difficult to understand because of the huge number of players and technologies involved. These include trading desks, demand side platforms (DSPs), ad exchanges, data providers, supply-side platforms (SSPs), networks, private markets, and publishers, etc.

This network guarantees the efficiency of a system that had different dynamics in the past. In traditional digital planning, the focus was on the size of the affinity audience reached through a particular platform (i.e. communication channel). The audience was associated with a specific channel, which meant there was no impact beyond the target. The user search method was imprecise, choosing sites with a lot of coverage (e.g., internet portals), or specific sites (niche).

It is important to differentiate programmatic buying from Real Time Bidding. RTB is a purchase model in which bids for certain impressions are made in real time through a series of variables established on demand-side platforms (DSPs). Now, this method can coexist with others already mentioned in the study, such as the Programmatic Guaranteed (PG) deals.

The programmatic advertising sector is growing every year in our country. However, the investment figures do not exceed 20 per cent compared to other markets such as the United Kingdom, Germany or France.

Most of the panel of experts agreed that the lack of specific training was one of the main causes of the slow development of this advertising method. This sector is undergoing enormous changes, but labour is lacking. According to Carcelén, Alameda and Pintado (2017: 1650), in some digital-related professions, there is a gap between what companies require and the training of professionals entering the labour market.

The University is gradually adapting its curricula to the new requirements. However, business schools and centres for postgraduate studies enjoy greater flexibility in this sense, because they are often not official education centres which are required to validate their curricula with the government, which is a requirement for all official degree programmes offered by universities.

Another cause for the slow development of programmatic advertising is a lack of transparency in the negotiation, which probably derives from the large number of agents involved in the process. This increases costs in one way or another. There is also some distrust in the inventory, because initially the advertising spaces available for automated sale were those that could not be sold through other channels. Although this is no longer the case, large communication groups are often reluctant to offer all their inventory programmatically because they earn more, faster, than through other channels. The implementation of tools that guarantee visibility, provide security to brands against fraud and measure the profitability of investments will help the development of the sector.

Despite these factors, a significant expansion of programmatic advertising is expected in the coming years. This growth that will come hand in hand as the model, which now applies to the Internet, is exported to other media (such as TV, radio, external, etc.) and devices.

Bearing in mind that we have moved from talk of impressions to talk of audiences, the planner of the future must know how to create a plan. The confluence of the programmatic with other actions such as search engine marketing (SEM) or conventional actions must be pinpointed. Therefore, specific training in analytics and data management, campaign optimisation, ad server management and creative traffic is essential. Now, in these early stages of implementation,

planners must act evangelically, expanding their commercial skills to sell technology without using technical vocabulary that the client may often not understand.

The sector is aware of the changes occurring, particularly for digital media planners, who will require new skills and knowledge to carry out their roles. Today the job profiles that best execute and embody programmatic strategies are those that can interpret the plans in an ad server, implement them in a DSP, integrate audiences in a DMP, and optimise them. The integration of technological experts with creative advertisers is advocated in the medium- and long-term, in order to create teams that unite analytical thinking with online advertising know-how.

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