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The consolidation of mobile devices for information consumption in Spain

La consolidación de los dispositivos móviles para el consumo de información en España

A consolidação de dispositivos móveis para o consumo de informações na Espanha

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ABSTRACT | The media live in a constant adaptation to face an increasing consumption of information from mobile devices. This demand has given rise to mobile journalism, designed and adapted specifically for this technology, and has led to the appearance of new advertising formats to retain new audiences, also mobile. To find out what are the habits of users regarding the consumption of news from these devices, their preferred journalistic formats and how they interact with information, we designed a survey study that was administered in Spain to consumers between 16 and 65 years (N=555). The results reflected the consolidation of mobile devices for the consumption of information (84.8% consulted news or journalistic content on the mobile phone on a daily basis, frequently in the workplace, while waiting for something, or during downtime), the adaptation of the media to this technology, and a predilection for social media apps to find news, to the detriment of media websites. They also revealed that informational video is the most successful format among consumers, although from native video applications, such as YouTube or Vimeo. Thus, that is where the media have a challenge: offering more attractive video consumption experiences so that the public consumes this format on their pages and, therefore, turns to first-hand sources of information.

KEYWORDS: user experience; mobile news; mobile phone; formats; information; tablets; mobile journalism; responsive design.

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RESUMEN | *Los medios de comunicación viven en una adaptación constante para hacer frente a un consumo de información cada vez mayor desde dispositivos móviles. Esta demanda ha dado origen al periodismo móvil, pensado y adaptado específicamente para esta tecnología, y ha propiciado la aparición de nuevos formatos publicitarios para fidelizar a nueva audiencia, también móvil. Para conocer cuáles son los hábitos de los usuarios respecto del consumo de noticias desde estos dispositivos, sus formatos periodísticos preferidos y cómo interactúan con la información, esta investigación diseñó un estudio de encuesta que se administró en España, a consumidores de entre 16 y 65 años (N=555). Los resultados reflejaron la consolidación de los dispositivos móviles para el consumo de información (84,8% consultaba noticias o contenidos periodísticos en el móvil a diario, frecuentemente en el lugar de trabajo y en los tiempos muertos o de espera), la adaptación de los medios a esta tecnología, y una predilección por las apps de redes sociales para encontrar noticias, en detrimento de las webs de los medios. También pusieron de manifiesto que el video informativo es el formato de mayor éxito entre los consumidores, aunque desde aplicaciones nativas de video, como YouTube o Vimeo. Es aquí donde los medios tienen un reto: ofrecer experiencias de consumo de video más atractivas para que el público consuma este formato en sus páginas y, por lo tanto, recurra a fuentes de información de primera mano.*

PALABRAS CLAVE: *experiencia de usuario; noticias móviles; dispositivos móviles; formatos; información; tableta; periodismo móvil; responsive design.*

RESUMO | Os meios de comunicação vivem numa adaptação constante para fazer face um consumo de informação mais crescente proveniente de dispositivos móveis. Esta demanda originou o jornalismo móvel, concebido e adaptado especificamente para esta tecnologia, e provocou o surgimento de novos formatos publicitários para fidelizar ao novo público, também móvel. Para conhecer quais são os hábitos dos usuários em relação ao consumo de notícias desde esses dispositivos, seus formatos jornalísticos preferidos e como interagem com a informação, esta pesquisa desenhou um estudo de inquérito que foi administrado na Espanha, para consumidores entre 16 e 65 anos (N=55). Os resultados refletiram a consolidação dos dispositivos móveis para o consumo de informações (84,8% consultava notícias ou conteúdos jornalísticos no dispositivo móvel diariamente, muitas vezes no local de trabalho ou em tempos de inatividade ou de espera), a adaptação dos meios para esta tecnologia, e uma preferencia pelas apps de redes sociais para encontrar notícias, em detrimento dos sites dos meios. Mostraram também que o vídeo informativo é o formato de maior sucesso entre os consumidores, embora seja a partir de aplicações nativas de vídeo, como Youtube ou Vimeo. É aqui onde os meios de comunicação tem um desafio: oferecer experiencias de consumo de vídeo mais atraentes para que o público consuma esse formato em seus sites e, portanto, consulte fontes de informação de primeira mão.

PALAVRAS CHAVE: experiência do usuário; notícias móveis; dispositivos móveis; formato; informação; tablet; jornalismo móvel; *responsive design*.

INTRODUCTION

The consumption of news from mobile devices has experienced such growth in recent years that the *mobile* label –initially used to distinguish the design for this technology (mobile responsive and mobile first)– has become an adjective to also speak of a new way of doing journalism (mobile journalism or MoJo) and, therefore, of producing content (mobile news), targeting new users (mobile audiences) and monetizing information (mobile advertising). In other words, what is *mobile* also refers to the immediacy and flexibility of the journalistic work, in such a way that a MoJo journalist is the one who works most of his/her time outside the newsroom and who can quickly respond, thanks to that technology, to news events (Cameron, 2009); mobile news are those that are produced with and travel shared on mobile devices (Xiaoge, 2013); mobile journalism is to give the audience those contents that they prefer immediately (Perreault & Stanfield, 2018), and mobile advertising is that message that knows the user's behavior at every moment, where he/she is, the time, the place and the context (Andrews, 2017).

The phenomenon of mobile information is reflected in the proliferation of technical and commercial solutions related to news distribution that have appeared (and, in some cases, also disappeared) in recent years: Apple Newsstand (2011); Play Kiosco (2013); Facebook Paper and Facebook Trending (2014); FB Newswire (2014); Snapchat Discover (2015); Facebook Instant Articles (2015); Apple News (2015); Google News Lab (2015); Google Accelerated Mobile Pages (2015); Facebook Notify (2015); Snapchat Official Stories, (2015), or Facebook Journalism News Literacy (2017). These distribution solutions, among many others, have given rise to the so-called Platform Press (Bell, Owen, Brown, Hauka, & Rashidian, 2017), where the identity of the information, the origin of the source and its authorship are blurred to the detriment of the original media, which have been forced to develop strategies so as not to be left behind, such as integrating these platforms into editorial processes and decisions. All this to not to lose an audience that has moved to mobile social networks, that moves rapidly and prefers applications, also mobile.

It should be noted that, despite the fact that this interest in mobile information occurs among all age groups, the younger the user, the more likely he/she is to use it, as reflected in the *2018 Digital News Report.es* (Negredo, Vara-Miguel, & Amoedo, 2018).

Considering this context, this research has as its main objective to know the user experience in Spain regarding the perception and consumption of mobile information (from the smartphone and the tablet), for which there are three specific objectives: 1) To know the habits of news consumption from mobile devices, 2) and to know the preferences regarding the variety of mobile journalistic formats, and 3) to know the behavioral patterns regarding interaction with information.

To achieve these objectives, we studied the scientific theories (presented in the theoretical framework) on digital journalistic trends, and subsequently conducted a survey designed to find out the experience of users regarding such trends.

THEORETICAL DISCUSSION

Mobile customization

Affirming that the audience is decisive concerning journalistic content is obvious, but that it is especially influential in mobile journalism, as reflected by Perreault & Stanfield (2018) in their research, confirms the efforts of journalistic companies towards increasing information customization, to offer not only content but experiences; journalism as a lifestyle.

Previous pioneering studies, such as that by Chan-Olmsted, Rim and Zerba (2013) on the adoption of mobile news among young adults, show that the adoption of this type of information is more linked to *lifestyle compatibility* rather than to the use of a technology, infrastructure or a certain format. Other important aspects for the user, according to these authors, have to do with the perception of usefulness and ease of use, i.e., with the possibilities of the information itself. Their findings also highlight the importance of automatic processes in the adoption of mobile news on this path towards personalization, because when the consumer is faced with a wide range of information, once the first active search has been conducted, he/she will reproduce the same consumption habits if the content selection has been adapted to his/her tastes and interests. This is also the reason for the trend towards the development of content automation software (Westlund, 2013), such as journalistic bots, and the rebirth of formats such as ad hoc newsletters, or the success of new products like news applications and alert or notification services.

It is precisely an intensive, preferential or almost exclusive use of mobile devices among users to be connected, called mobile-only (ComScore, 2018; McGrane, 2013; Donner, Gitau, & Marsden, 2011), which has favored research in new customization options for mobile applications, as shown in the *Jerarquía de Necesidades en Móvil* report (Mobile's Hierarchy of Needs) (ComScore, 2017). This study associates Maslow's Pyramid of Needs (1943) with the use of these smart devices, to understand the consumers' behavior, which reinforces the idea of content as an experience and as part of everyday life; for example, consulting news services such as weather information would be related to the need for security, while the consumption of digital newspapers would be related to the need for affiliation.

Mobile-only: trends and formats

Meeting these needs for a potentially mobile-only consumer is becoming the goal of the media industry. Meredith Artley, editor-in-chief of CNN, verbalizes the interest of the media and the tactic to follow in the coming years when she affirms that the "aim is to be number one in video news for mobile" (Bell et al., 2017, p.17). This means reinforcing the mobile first strategy by placing user experience first (UX first). The research of Ji, Yun, Lee, Kim and Lim (2017) is directed in this direction and develops a model that measures the user's cognitive response and information about his/her behavior (usability and satisfaction) to establish a profile and thus provide an interface as customized as possible (User Interface or UI), a kind of narrative that makes it easy to navigate through the content as well. To this end, there is already a wide range of content and mobile-only formats. Accelerated Mobile Pages (AMP) from Google, Facebook Instant Articles, and Apple News are three examples of formats that work to make mobile content a faster and easier consumer experience.

Within the information consultation trends, there is a wide variety of options ranging from formats (video, text, audio, photography, timelines, maps, infographics, gamification, interactive, etc.), to the context (on the move, in the place of study or work, at home), to habits related to usability options (save to read later, notifications, alerts, hyperlinks, scroll (reading or viewing horizontally or vertically), the use of specific applications, or the interaction options (virtual reality).

Considering this context, this study seeks to respond to the "new challenges posed by the mobile ecosystem" (Figueroa & Codina, 2018. p. 67) and that must be investigated since, as these authors conclude in their work, " it is of vital importance for the future of the media to understand the technological, but also strategic aspects of the new mobile formats" (p. 67).

MATERIAL AND METHODS

As stated above, the main objective of this research is to get to know the user experience in Spain regarding the perception and consumption of mobile information (from the smartphone or the tablet). Therefore, we established the following specific objectives:

Specific objective 1. Know the news consumption habits from mobile devices.

Specific objective 2. Know the preferences regarding the variety of mobile journalistic formats.

Specific objective 3. Know the behavior patterns regarding the interaction with the information.

Sample

We conducted a cross-sectional, descriptive, and analytical study (December 2018). The sample, representative of Spanish society, was made up of 555 respondents from Spain (m=95%, e+- 4.2%, p=q=50), with ages ranging between 16 and 65 years, 49% of women (N=270) and 51% (N=285) of men, with all provinces represented. The most common age ranges (M=40.02, DT=12.87) were between 25 and 54 years, in line with data from the National Statistics Institute[1]. The most repeated level of studies was university (N=307, 55.3%). Most resided in populations with more than 10,000 inhabitants, the most common employment situation being working (N=382, 68.8% of the total). Among the workers, the employed professional stands out, followed by public service workers and self-employed workers. The most frequent declared average earnings correspond to the range of 1,800 to 3,000 euros (N=150, 27%), closely followed by the previous stratum –900 to 1,800 euros– (N=145, 26.1%).

Instrument

The information collection method used was the self-administered online survey (Gaitán & Piñuel, 1998), developed ad hoc. The first version of the instrument was subjected to a pilot operation test (Cresweell, 2002, cited in Sevillano, Pascual, & Bartolomé, 2007) with the aim of analyzing the apparent validity and understanding of the questionnaire. This validation was translated into a survey made up of 56 semi-open and closed-ended questions, on 5-position symmetric Likert scales: strongly disagree, slightly disagree, neither agree nor disagree, slightly agree, and strongly agree. The reliability of this subscale in this study was α=0.73. When the questions were about temporal frequency, a scale of 5 positions was used: several times a day, at least once a day, at least once a week, at least once a month, and never.

In addition to the sociodemographic data (gender, age, habitat, education, income, and employment status), the participants had to indicate the operating system of the smartphone and tablet they use. To achieve the research objectives, the survey included questions about information consumption habits on mobile devices, paying special attention to the type of information and the formats most consumed in these media. Finally, subjects were asked about their interaction with content, always from mobile devices, whether on social networks or in the environments where news are produced.

Method

The questionnaire was conducted online so that the respondents, selected from a database of volunteer panelists, could fill it in from any device with an Internet connection and thus facilitate data collection and subsequent analysis. They had a

1. www.ine.es

week and between 20 and 25 minutes to complete it. All this process had the approval of the Ethics Committee of the university of origin of the researchers, as well as the informed consent of the participants, preserving their privacy and anonymity.

Data analysis

The software used for data processing was SPSS v21. First, we performed a descriptive analysis (contingency tables) with contrast statistics to validate the difference (χ^2 test with contingency coefficient(r_φ^2)). To report on the magnitude of the change, we considered <0.30, small effect, 0.30-0.50, medium effect and >0.50, large effect (Cohen, 1992). On the other hand, the means difference tests applied on metric variables were also used when appropriate. The selected contrast procedures were U from Mann Whitney and H from Kruskal Wallis since the previous Normality analysis indicated non-normal type distributions (applied normality test: Kolmogorov-Smirnov). The significance level for all tests was established at $p<0.05$.

RESULTS

Before getting to know the results for the established objectives, the first filter was to find out if the sample used mobile devices. The data revealed a widespread use of the smartphone, while 71% also used the tablet, the most frequent operating system being Android (N=435, 78.4%), followed by IOs (N=101, 18.2%) and Windows Phone or others (N=19, 3.4%).

News consumption from mobile devices (REVISAR)

Regarding the specific objective 1, the data shows that 86.6% of those surveyed with a tablet consulted journalistic content on this device. Just over half did it daily (51.5%), and 73.9% did it at least once a week. Although for this question no significant differences were obtained according to gender, they did occur in relation to age (χ^2=36.08, p=0.02, r_φ^2=0.29); users over 65 years used it to a lesser extent, daily. The smartphone showed a greater consumption of journalistic content: 84.9% consulted news or journalistic content on their mobile phones at least once a day, and almost half (49%) claimed to do it several times a day.

Another relevant issue has to do with the way of accessing information, the payment for content. The data showed a marked tendency to not pay (82.7% of the total), the majority option among women (86.7% vs. 79% of men), and the difference was also significant (χ^2=10.10, p=0.04, r_φ^2= 0.13). In the unlikely case of paying for content, a daily consultation was observed; the minority option was to pay for them at some time (5.4% of the total, 7% in the case of men and 3.7% in that of women), compared to the options that

require repetition, especially for having subscriptions to one or more media (9.7% of the total, 10.9% men and 8.5% women).

Regarding the analysis of those daily situations in which information is consumed, slightly more than half of the men and almost 60% of the women stated that they did not read news while walking on the street. The difference by gender was significant (χ^2=11.9, p=0.01, r^2_φ=0.14), as was by by age (less frequent at older age, χ^2 = 61.6, p = 0.01, r^2_φ=0.32). Nor did it turn out to be a habit when traveling by car; 61.6% of those surveyed stated that they never did it, without significant differences by gender, although they were some by age: less frequent the older the age (χ^2=29.4, p=0.00, r^2_φ=0.22), nor during classes in the case of students (75% of students declared never doing it, with significant differences by age (less frequent the older the age, χ^2=105.3, p=0.00, r^2_φ=0.40). On the contrary, it was confirmed as a frequent act when waiting for public transport (only 20% state that they never do it; this item also shows differences by age (more frequent the younger the age, χ^2=36.5, p= 0.00, r^2_φ=0.25)), or while traveling in it (23% state that they never do it), without significant differences by gender, but some by age (more frequent the younger the age, χ^2=34.3, p=0.00, r^2_φ=0.24), and while waiting for some service such as the doctor, in a garage, etc. (only 12% in this case said they never did it), or at home (3% answered they never do it). It is also frequent when having breakfast, lunch or dinner (30% said they never did it), without significant differences by gender, although there are some based on age (more frequent the younger the age, χ^2=47.3, p=0.00, r^2_φ=0.28), and during work breaks (28% answered never doing it), although in this case the women reported doing it significantly less (χ^2=11.05, p=0.01, r^2_φ=0.14). The difference by age is also significant; the older stratum said to do it less (χ^2=33.99, p=0.00, r^2_φ=0.24). Interestingly, 65% of men and 50% of women reported reading news at work (the difference was statistically significant, χ^2=12.4, p=0.00, r^2_φ=0.15). In the case of age, the oldest stratum stated that they did so to a lesser extent (χ^2=39.2, p=0.00 r^2_φ=0.25).

Mobile journalistic format preferences

The video stands out as the preferred format; 73.9% reported consuming it at least once a week, with no differences by age or gender. Regarding the type of video, both short and long videos are usually consumed, and the exclusive consumption of long videos is marginal, as shown in Figure 1.

Another relevant issue regarding informational videos has to do with the source of the information. 47.4% of the sample (52.6% of men and 41.9% of women) said that they consume videos from traditional media weekly on their mobile devices. However, this frequency was much higher, 60.2% of the total (60.4% of women and 60% of men), when the source was YouTube, Vimeo, and other video platforms.

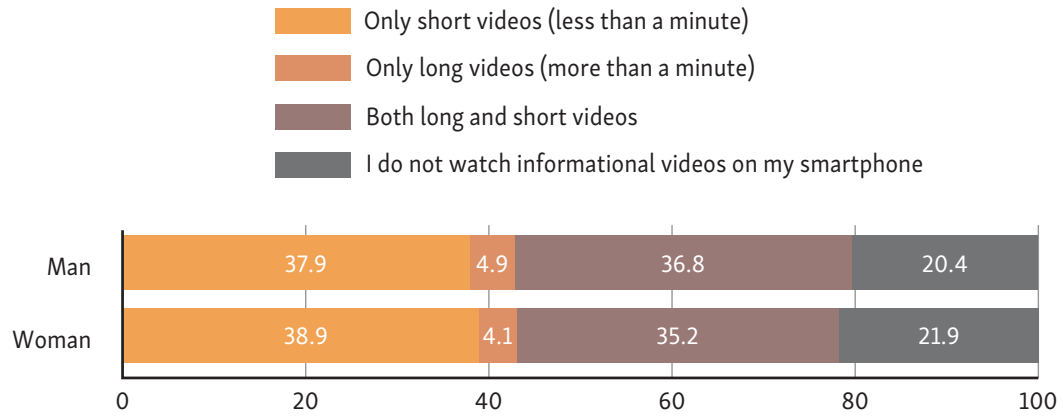

Figure 1. Types of informative videos (%)

Source: Own elaboration

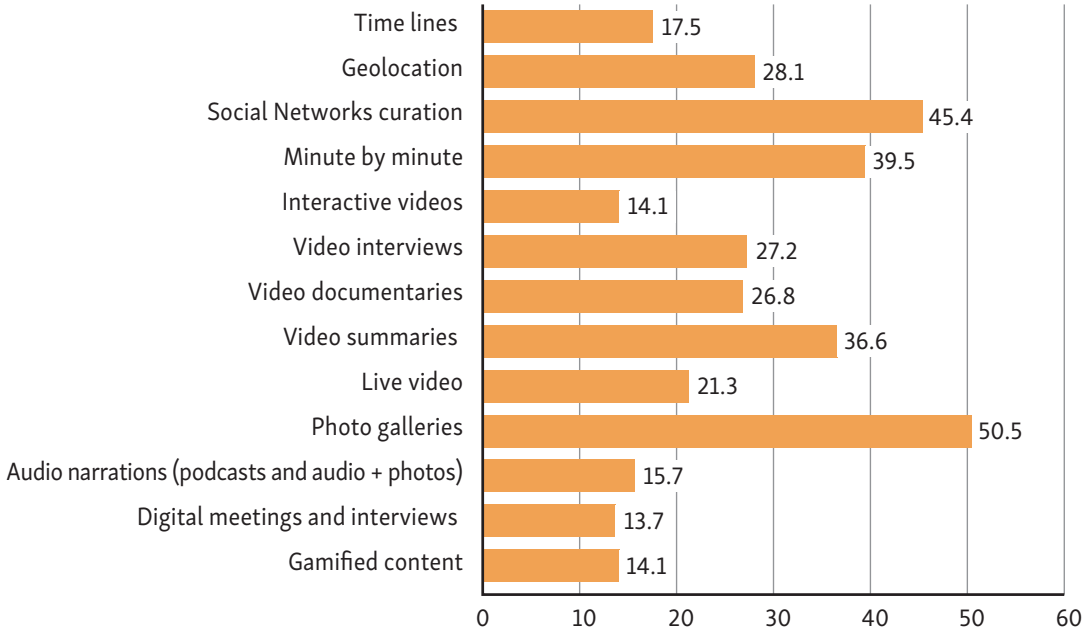

Figure 2. Consumption of other journalistic formats (% Yes)

Source: Own elaboration.

That is, it is consumed to a greater extent in environments where the information is a priori less reliable or, at least, it has a lower degree of contrast or it is less professional. In this case, no differences were obtained by gender, but there were some by age, with a significantly more frequent behavior when the respondent was younger (χ^2=65.8, p=0.00, r^2_φ=0.33).

Audio, understood in any of its online variants (podcast, streaming live, or audio on demand) is undoubtedly a less used format; almost a third of the sample (29% of the total) declared not to use it as an informative source. Furthermore, the data was very homogeneous considering the gender and age of the respondents.

A similar situation occurs regarding maps and graphics. Thus, the consumption of this type of format turned out to be a weekly activity (25.2% of the total), or even monthly (22.3% of the total). As in the previous case, the data was homogeneous, without significant differences.

On the other hand, the respondents indicated that they frequently view photo galleries (50.5%), information on social networks (45.4%), minute by minute (39.5%) and video summaries (36.6%).

Behavioral patterns in the interaction with information

The last of the proposed objectives involves considering the information habits of the population under study, how users behave when consuming news from their mobile devices. In this regard, the respondents mostly indicated that they tend to read the headlines, headings, highlights, and texts.

The save to read later option was not used frequently, since 64.9% (63.7% of women and 66% of men) of the sample indicated not to use it (of it, 17.7% of the total, 14% of men and 21.5% of women, for not knowing the option). No significant differences were found by gender, although there were some by age, the younger ones using more frequent the save to see later option (χ^2=56.7, p=0.00, r^2_φ=0.30).

As for the search methods of news content –understood as the one that has been selected for its informative and cultural value, among other journalistic criteria (Schwarz, 2010)–, it should be noted that the most frequent behavior was to use applications (apps) from social networks (56.9%); the second most frequent activity is direct consultation on the website of the original media (45.4%), receiving news by email (30.3%), consulting the news through specific information apps (29.5%), the use of instant messaging apps such as Telegram or WhatsApp (27.4%), and finally the use of the Google search app (22%).

Another relevant issue regarding the consumption of news content on the move involves considering whether the websites of content generators facilitate this work for the reader as much as possible. This type of web design –responsive design (the web can recognize the device from which it is invoked and can respond to it)–, is a concept known to almost 79.3% of respondents. Although the difference by gender was not significant, it was significant by age (χ^2=63.95, p=0.00, r^2_φ=0.32). As could be intuited, this term became better known the younger the analyzed age stratum was.

Continuing with this issue, the consultation of news on a mobile phone can be done in multiple ways, including apps, social networks, and web browsers. Regarding the latter method, the sample was asked if the news websites they consult are adapted to mobile phones (responsive design). The majority response

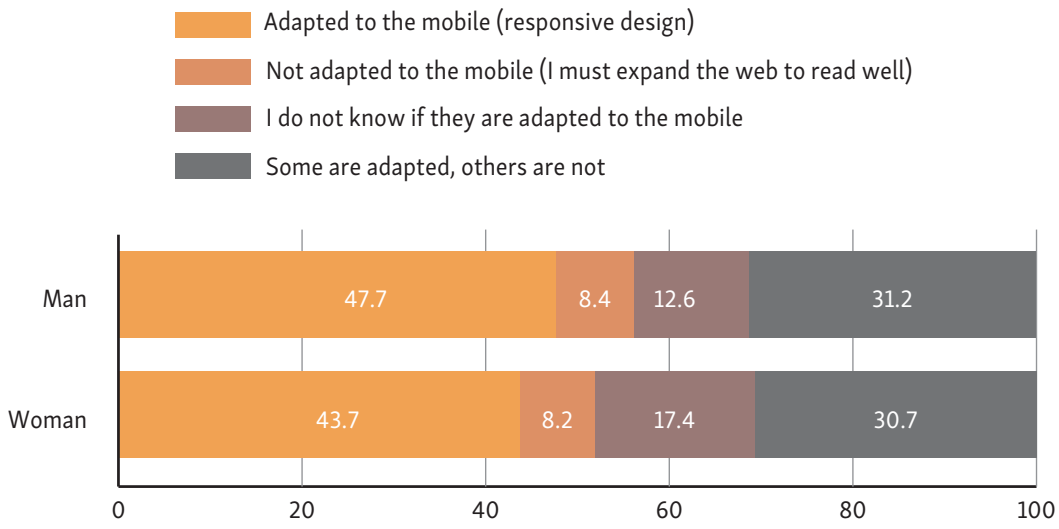

Figure 3. In the case of using the browser directly, the websites on which you inform yourself are... (%)

Source: Own elaboration.

to this question, indicated by 45% of the sample, was reassuring: the websites were adapted and, in the opinion of the respondents, had responsive design. No significant differences were obtained by gender, but by age (χ^2=48.2, p=0.00, r^2_φ=0.28). However, this issue should not be given great relevance, since most of the older respondents did not know the term responsive, it is inferred that they could not know whether the websites they consult have such a design or not.

Another relevant matter related to the usability of the website from which news content is consulted has to do with the way of reading the information, of doing what in slang is known as scroll. When the sample was asked about this, the answer leaves no room for doubt, since a comfortable majority opted for vertical scrolling to the detriment of horizontal scrolling, both on mobile (83.8% of the total) and on the tablet (71%). The difference was not significant in either case in gender, but it was significant in age both for mobile (χ^2=43.8, p=0.00, r^2_φ=0.27) and tablet (χ^2=14.6, p=0.01, r^2_φ=0.20), highlighting an interesting difference: the younger strata prefer vertical scroll (93% in the stratum from 16 to 24 years old, compared to 52.2% in the stratum from 65 to 74 years old), and those of older age, horizontal scroll (only 7% in the stratum of 16 to 24 years, compared to 47.8% of the stratum of 65 to 74 years).

In addition to websites, another fundamental pillar in the consumption of news content is undoubtedly the apps that generators create to adapt to the mobile environment. The data, without significant differences depending on gender and age, in this case support the idea of habitual use of mobile applications, since 77%

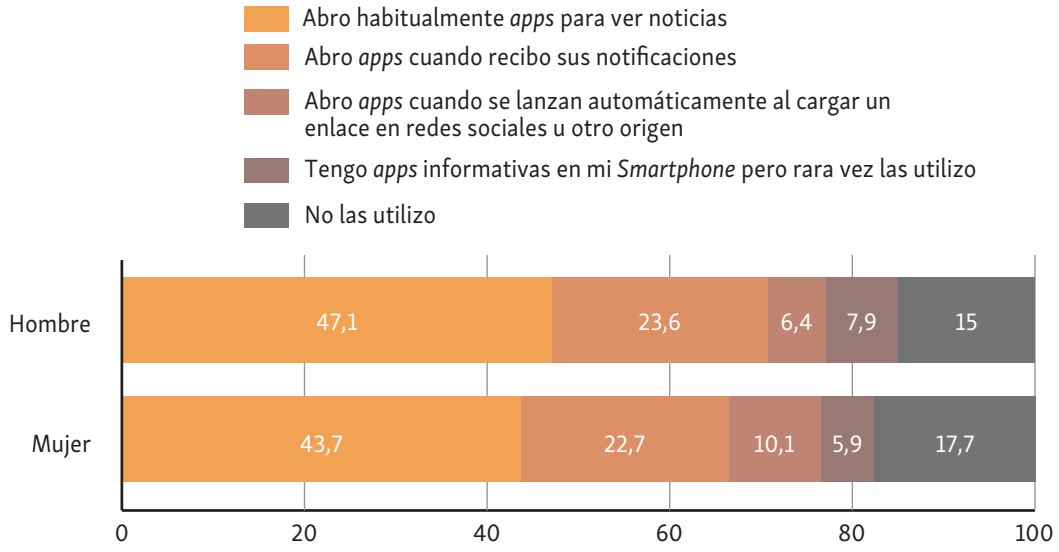

Figure 4. What use do you make of news apps? (%)

Source: Own elaboration.

say they open them, either on their own initiative, when they receive notifications, or through links to social networks.

In line with the above, it seems to be an evident fact that content generators are concerned with equipping their websites with adequate designs and facilitating consumption as much as possible. However, it is possible that by accident the intended news content may not be properly displayed. It is interesting to know that, in such a circumstance, most of the users have a proactive behavior and try to expand it to be able to read it properly (69.3% of the total), look for such information on another site (7%), or resort to another device (as a computer) to read it (13.5%), with only 10.09% of abandonment. The data were not significantly different by gender, but there were differences by age (χ^2=29.6, p=0.01, r^2_φ=0.22). Thus, it seems to be a greater effort on the part of the older group to get to read a news story, especially by looking for the information alternately on the computer.

DISCUSSION AND CONCLUSIONS

The results of this research allow us to describe to a large extent the user experience of people who use mobile devices to inform themselves. However, it is worth clarifying a possible relationship, or influence, on the results obtained due to the fact that the respondents were able to fill in the questionnaire from an intelligent mobile device and they have a greater tendency towards the consumption of information through these devices.

The analyzed data confirm that the consumption of mobile news is a solidly widespread habit in Spain, surely on the rise. The results indicate that 84.9% of the sample accesses informative content from their mobile device, a figure in line with other research that addresses the phenomenon in Spain. Comscore, official meter of online traffic in Spain, has already pointed out (2018) that access to the network is mostly mobile and that news is one of the most consulted content from these devices: up to 80% of users do so, according to their reports. In addition, the recent work of Negredo et al. (2018) points out that 64% of users use mobile devices as a tool to be informed, specifically, to consume digital news.

This panorama of growing dominance of the mobile phone (as we have seen, the tablet is marginal) to consume news suggests that news companies are succeeding in adapting their products for mobiles, and that those that do not follow this path lose a great deal opportunity to reach more and better audiences. The public increasingly looks for news from their phones and that can only be because the experience satisfies them. Venkatesh, Morris and Davis (2003) have already extensively analyzed how simplicity of use allows predicting a positive attitude towards technology. This is shown in our results, a conclusion also coinciding with the work of He, Chen, Li and Qiu (2015) on satisfaction in the use of mobile devices to obtain information, with those of Sundar, Bellur, Oh, Xu and Jia (2012) on usability and content retention and, at a more general level, with those of Hassenzahl (2003) on the efficacy of digital products.

To understand how this good experience contributes to the consumption of information on mobile phones, it is necessary to better understand the habits of Spanish people when consuming news. It is relevant to understand what are the environmental conditions in which these news have to compete. In this regard, it stands out that the workplace is one of the places where the mobile phone is used the most for information (up to 65% of the men surveyed). It is also interesting to see how, coinciding with what Chan-Olmsted et al. (2013) said on lifestyle, the news is sought in the dead times: waiting for public transport, in the doctor's waiting room... That is: the news competes well to fill those free time that users have, rivaling social networks and countless other mobile entertainment possibilities. And that ability to compete also has to do with the good usability and the good user experience manifested in the respondents' answers.

It should be noted that this relationship between news content and social networks on mobile phones is not only of competition, but also of collaboration, in a fairly clear case of what authors such as Daidj and Jung (2015,38) call *coopetition*, a model that mixes cooperation and competitiveness. In this regard, the news is taking advantage of the networks as a vector of penetration. Not only do they serve

to contribute to its dissemination, as indicated by other works (Reuters Institute, 2014; Negredo et al., 2018), but the data shows that social media applications are the preferred tool for Spanish to find the news, above direct consultation of media websites and also surpassing native media applications.

This trend appears very clear, but it could have changed in the last months of 2018. After the changes made by Facebook in its algorithm, the news has lost presence in this majority social network and an increase in direct traffic to the websites is beginning to be noticed (Walter & Hang, 2018). The future evolution of these indicators should be monitored to see if this transformation is consolidated or if network applications continue to be the main sources of mobile traffic to informational websites.

In these consumption circumstances, competing for short periods in complex consumption situations, ease of use seems to be a determining factor for the success of news consumption on mobile media. It is relevant that the data indicates the importance of usability and simplicity: a high percentage of users (almost 80%) is aware that the content they consume is constructed and adapted for better consultation on mobile devices. This knowledge about what is called responsive design is very interesting, because users are not always aware of the technical innovations that support the products they use. This analysis also proves that the public rejects or ignores pages not adapted to mobile phones: only 8.2% of the sample says they consult news sites that have to be expanded to make them easier to read (i.e., without responsive design).

Despite this refusal to consult information on poorly constructed pages, users are proactive: if the news attracts their interest, they will make an effort to read it. Up to 69.4% say they take the time to expand the news to see it well when it is not adapted to the mobile, and the abandonment rate in these circumstances is relatively small. It is interesting that the greatest effort is made by older people; it seems clear that younger users are less patient and more demanding with the quality of the experience.

Regarding the use of informative apps, we found that native applications also occupy an important place in the preferences of users when searching for news: almost 30% indicate them as their fundamental and preferred access method. This data is interesting, because it adds to the fact that about 77% of the sample open a news application sometimes, 45.5% does it regularly and 23.2%, when they receive notifications from the app.

In this aspect of information consumption from applications, those of private messaging are quickly making their way. These data clearly show the emergence of

products such as WhatsApp or Telegram: 27.4% of users say they access information from these tools. Given that the penetration of this type of applications in the market does not stop growing, it is very likely that their role in news distribution will increase, which should be a wake-up call for the media, that will have to adapt their content for better consumption in these conversation interfaces, even developing narratives and specific formats for them, as is already being done with chatbots and has been described in works such as those by Herrero-Diz and Varona-Aramburu (2018).

The data on video consumption for information on mobile devices is also interesting to explain the advances in the user experience. It is observed that more informational video is consumed on phones using native video applications, such as YouTube or Vimeo. This behavior indicates that even the consumption of this medium on mobile media poses difficulties and that they are better solved by video specialists, while digital media offer less attractive experiences and, therefore, the public consumes less video on their pages.

A complex or poor experience is also behind the low interest aroused by formats such as audio, maps, or graphics among users of mobile devices. The difficulties of consulting these formats are a burden for their consumption, clearly showing the industry's need to research and innovate to improve this type of content so that they occupy a wider space in the public interest. These findings coincide with those described by Goggin, Martin and Dwyer (2015) in their work on informative cartographic narratives, and with those of Roudaki, Kong and Yu (2015) on consumption of different formats, such as audio, video or graphics, in mobile supports.

Finally, it is concluded that the experience of consuming news on mobile devices, especially on smartphones, is already consistent and attracts more and more users in Spain. Spanish digital media offer mobile proposals that attract the public and compete strongly with entertainment options to catch users' time. There are areas in which to improve, but in general there is a significant effort by media companies to transfer their product to new media with good quality, adapted to the demands of an audience that decisively embraces mobiles and calls for more and more eye-catching and useful proposals.

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