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MOBILE JOURNALISM:

the emergence of a new field of journalism



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ABSTRACT – This article was developed within the scope of the Erasmus+ PAgES project, and it aims to investigate mobile journalism (mojo) as a new digital journalism technique that is based upon three characteristics: agility, flexibility, and accessibility. The proposed hypotheses are that mobile journalists can produce news content quickly and also include a greater variety of formats. In addition, access to remote locations and characters for interviews has been facilitated. Exploratory research tested these hypotheses using a mixed-method approach: an online survey (53 responses), to assess the degree of agreement/disagreement of the mobile journalists themselves regarding the hypotheses; and four interviews with experts to understand their perceptions of this new approach to journalism. The result of the research was favorable to the hypotheses and confirmed the process of individualization in journalism. It also ratified mojo as a journalistic technique suited to the demands of the 21st-century media industry.

Keywords: Digital journalism. Mobile journalism. Smartphone.

JORNALISMO MÓVEL: A emergência de um novo campo jornalístico

RESUMO – O artigo foi desenvolvido no escopo do projeto Erasmus+ PAgES e tem como objetivo investigar o jornalismo móvel (mojo) enquanto nova técnica do jornalismo digital, destacando três características: agilidade, flexibilidade e acessibilidade. As hipóteses apontam para que o jornalista móvel seja capaz de produzir conteúdo jornalístico com rapidez, incluindo maior variedade de formatos, além de ter o acesso facilitado aos locais mais afastados e aos personagens para as entrevistas. Para testá-las, realizou-se uma pesquisa exploratória através de uma metodologia mista: um questionário online, que obteve 53 respostas, para avaliar o grau de concordância ou discordância dos próprios jornalistas móveis em relação às hipóteses; também se realizaram quatro entrevistas com especialistas, para entender suas percepções acerca do fenômeno. O resultado da pesquisa se mostrou favorável às hipóteses, além de confirmar o processo de individualização laboral no jornalismo e o mojo enquanto técnica jornalística adequada às exigências do mercado da comunicação no século XXI.

Palavras-chave: Jornalismo digital. Jornalismo móvel. Smartphone.

PERIODISMO MÓVIL: la emergencia de un nuevo campo periodístico

RESUMEN – El artículo se desarrolló en el ámbito del proyecto Erasmus+ PAgES y tiene como objetivo investigar el periodismo móvil (mojo) como una nueva técnica del periodismo digital, destacando tres características: agilidad, flexibilidad y accesibilidad. Las hipótesis apuntan a que el periodista móvil podrá producir contenido periodístico de forma rápida, incluyendo una mayor variedad de formatos; además de tener un acceso más fácil a los lugares más remotos y los personajes para las entrevistas. Para ponerlas a prueba se realizó una investigación exploratoria con una metodología mixta: una encuesta en línea, que obtuvo 53 respuestas, para evaluar el grado de acuerdo o desacuerdo de los propios periodistas móviles con respecto a las hipótesis; también se realizaron cuatro entrevistas con expertos para comprender sus percepciones del fenómeno. El resultado de la investigación fue favorable a las hipótesis, además de confirmar el proceso de individualización laboral en el periodismo y el mojo como técnica periodística adecuada a las exigencias del mercado de la comunicación en el siglo XXI.

Palabras clave: Periodismo digital. Periodismo móvil. Smartphone.

1 Introduction

The use of mobile devices such as smartphones and tablets is no longer a novelty in the newsrooms of today. However, mobile journalism (also known as “mojo”) is a journalistic technique that uses these devices and continues to evolve with the improvement of the functionalities of these tools, increasingly taking them on board as part of their professional equipment. Mobility is not an innovative characteristic in the 21st-century journalism either. When it comes to producing text, photo, or video, professionals have always needed

to go to the location of the news event to do interviews, report news stories and take pictures and film footage. However, the current production of news from mobile devices has become commonplace because they are capable of incorporating aspects of traditional equipment in a computing device that is connected to the Internet and digital networks, as well as being easy to handle and transport. This has completely transformed the field of journalism by being able to expand mobility on a large scale (Adornato, 2017; Briggs, 2007; Burum, 2016; Karhunen, 2017; Quinn, 2009).

Another element of change for digital journalism (Eldridge et al., 2019; Steensen & Westlund, 2020), and fundamental to the creation and development of *mojo*, is the technological convergence of various features amalgamated across mobile devices (Jenkins, 2006). According to Oscar Westlund (2019, p.1), “altogether, these technological developments have all facilitated mobile journalism, making it easier to engage in reporting from anywhere at any time”. It has prompted the change from whole journalism crews into just one journalist with a smartphone. Isabel Travancas’ report, in her ethnographic research in the newsrooms of the city of São Paulo in the 1990s, is a good picture of how the work of a journalist used to be before these transformations: “in addition to pen and paper, [the television reporter] has a whole array of technical apparatus, which includes three assistants – a cameraman with the video camera, someone holding the lighting tool and a person responsible for the VT, who operates the equipment (Travancas, 2011, p.48, as cited in Silva, 2013, p.121, our translation)¹. In the following decade, this reality had already become a very different one.

According to Stephen Quinn’s (2009, p.10) research on early *mojo* experiences on the Asian continent, mobile journalists “tend to work alone” and: “news [produced by the mobile journalist] can consist of text, audio, stills or video, or sometimes a combination of these” (2009, p.10). In this way, *mojo* is a journalistic technique of individual production. One person can cover various news formats and is capable of carrying out all the stages of the news production cycle from production to editing and distribution on the network, all on the same mobile device (Canavilhas, 2021; Westlund, 2019). In this respect, reporter Harriet Hadfield presents live broadcasts for the British television channel Sky News alone, using just two smartphones, plus a few accessories (Fairweather, 2016). For this reason, *mojo* is also in line with the current trends of individualized,

multitasking, and web-oriented journalism (Blankenship & Riffe, 2019; Crespo et al., 2017; Marshall, 2008).

Scientific articles (López-García et al., 2019; Satuf, 2015; Westlund, 2015), book editions (Barbosa & Mielniczuk, 2013; Canavilhas et al., 2019; Canavilhas & Satuf, 2015), and web content (Shoulderpod, n.d.; What is mobile journalism?, n.d.) often highlight the advantages of working with a smartphone over traditional equipment. This article selects and analyses three trends that appear in readings on *mojo*.

The first of these is agility as all steps of the news production cycle (production, editing, and distribution) are carried out directly in the field and using the same device (Mills et al., 2012). In other words, today's mobile journalists can edit and publish news stories from wherever they are – the same news reports that they used to have to gather where the news was taking place and then have them edited and published in the newsroom. Mobile journalists have got mobile technology at their fingertips and can publish in integral or partial form using video, text, photo, or audio format. Furthermore, the small size and lightness of the mobile devices have facilitated the journalist's mobility. It is all due to the fast pace of innovations in digital media and mobile devices. The empowerment of mobility is used to attract customers in a recent advert by the mobile accessories company Shoulderpod: "Be the first to broadcast a breaking news or event" (Shoulderpod, n.d.).

The second characteristic is flexibility: an example is the multimedia work of BBC mobile journalist Dougal Shaw where he produces content in different formats for the company's television, radio, YouTube, and Facebook channels (Shaw, 2018; Urlbauer, 2019). This feature is also highlighted in the article "Benefits of going 'mojo'" in the *Mobile Journalism Manual* (n.d.): "Smartphones put a complete production studio for radio, television, text and social content in your pocket".

The third characteristic is accessibility: in the sense of fast access to remote locations or crisis contexts and to approach characters for interviews. The Al Jazeera Media Institute handbook (Maccise & Marai, 2017), for example, discusses the potential of *mojo* for news coverage in conflict areas. The authors say: "Armed with only a smartphone, journalists are empowered to cover almost any story in a timely and safer manner" (Maccise & Marai, 2017, p.1). Also on this *mojo* feature, Panu Karhunen (2017, p.48) analyses the mobile journalist's approach to the people interviewed and concludes

for the Reuters Institute for the Study of Journalism that “often, journalists get closer to the story and subject by working alone with a smartphone”.

2 Aspects of mojo

More than ten years ago, journalist Stephen Quinn (2009, p.8) defined the mojo novelty as “almost science fiction” after describing pioneering coverage that took place in the city of Albuquerque, United States, for local television station KOB-TV. Reporter Jeremy Jojola and his producer, both responsible for the report, use just an iPhone and the Qik app for the live broadcast of an event in the city, thus dispensing with expensive satellite cars, tripods, broadcast cameras, and cables. In an interview after the live transmission (Tompkins, 2009), Jojola admitted that he had problems with the audio quality because he had not used an external microphone or taken background noises into account.

Today, mobile journalists have a range of accessories and software to optimize the performance of their smartphones. Therefore, each professional can make up their mojo kit according to their needs. The main items are a stabilizer, microphone, light, and external battery (Shoulderpod, n.d.). As far as software is concerned, there are many options, both to improve the manual control of the device’s camera or to edit and finalize the material (APPS for mobile photography, video and social media, n.d.).

However, mobile journalists point out that the number of accessories that make up the mojo kit directly affects their agility when it comes to moving around in the field or recording an unexpected event, and one of the main advantages of working with the mojo kit is being faster than professionals who carry bulky and heavy equipment. Consequently, Dougal Shaw (2018) stated that the ideal is when all the equipment can fit inside a small backpack. He even compared himself to radio journalists, who only carry light items with them, swapping his large, heavy baggage where he kept cameras, lenses, and tripods for a small bag capable of holding a rig (mobile phone stabilization equipment) and a microphone. Shaw called this experience the “mojo diet” (Shaw, 2018).

It is common for mobile journalists to work with more than one type of news format. According to Justin Blankenship and Daniel

Riffle (2019, p.1), in their investigation of individualized work in local television stations in the United States, these professionals are “regularly expected to gather information, conduct interviews, write stories, record audio, and video elements, and then edit it all together into a narrative news story, all by themselves”. This ability of the journalist to multitask and produce news in different formats is due to the functionalities available on the same mobile device, such as the smartphone. As explained by Henry Jenkins (2006, p.293), in his work on convergence culture, the changes in the media and consumer environment in the 21st century are associated with technological convergence, which is nothing more than the possibility of a “combination of functions within the same technological device”.

It is clear from Dougal Shaw’s descriptions of his *mojo* diet experience (Shaw, 2018; Urlbauer, 2019). He demonstrated the flexibility to work with more than one news format and distribute them through different media. Therefore, it is perceived that he carried out, at the very least, the work of a reporter, video journalist, and editor:

My way of doing a story is I go there, and I record everything on my mobile phone. I record it as a video, but I am also getting audio that way. Then I decide what different platforms I can put that story on, because I am a multi-platform journalist. How is it best going to work? I usually do a radio version from the interview that I have done. Then I’ll do video and if the subject is only worth two minutes, it’s going to work on Facebook. And I make a TV report as well, because that can just be two minutes. But if it’s a bit more in-depth, it can be a five- or six-minute YouTube video. Maybe there’s another TV format at the BBC News where they take longer videos. It depends completely on the story (Urlbauer, 2019, paragraph 2).

Mobile journalists also stress the access to characters for interviews and the access to remote locations as advantages of *mojo*, in addition to the characteristics of agility and flexibility (Karhunen, 2017; Shaw, 2018). In the first instance, a smartphone is an object with which people are most familiar. Furthermore, it is less intrusive than professional cameras. Last but not least, interviewees are also more comfortable when the mobile journalist works alone, rather than in large teams. However, Karhunen (2017) notes that this reaction is not the same when the interviewees are authorities or celebrities used to big productions.

The second case of accessibility is due to the fact that smartphones are much smaller, so they are simpler to use and

transport, and, consequently, the work of the mobile journalist in more distant locations is much easier. However, Nick Garnett (2015), another BBC mobile journalist, made the caveat that this advantage only applies to places that offer a good internet connection. When reporting for the English channel on the earthquake that struck Nepal in 2015, Garnett (2015) used his mojo kit but acknowledged that he faced difficulties in getting a stable transmission.

By the same token, Diana Maccise and Montaser Marai (2017) suggest that mojo discretion helps the reporter to work in conflict or crisis areas². An example of this was the documentary *Syria: Songs of Defiance*³ which was recorded by an Al Jazeera journalist using a smartphone. At the time, the government of Bashar al-Assad had banned journalists from the Qatari media company from working in the country. As Maccise and Marai (2017, p.9) point out: “by using a smartphone, the undercover journalist was able to gather images the world otherwise wouldn’t have been able to see”.

But beyond a deductive reflection on these three main aspects of mojo, what would empirical research tell us to confirm or refute these premises?

3 Methodology of analysis

This work is exploratory (Gil, 2008), in the sense that it develops and clarifies concepts and ideas about a journalistic technique – the mojo – which is not yet firmly established as a subfield of journalism studies. As López-García et al. (2019, p.10) concluded: “the phenomenon of mobile journalism has not yet been unanimously conceptualised in Academia”. In other words, it needs more research doing on it and the themes, concepts, objects, and methods need to be legitimized by the “competitor-peers”, according to Pierre Bourdieu (1983, p.5, our translation), in his essay on the construction of a scientific field.

Therefore mixed-method research has been designed to produce some empirical substance and test the following hypotheses: H1: the mojo kit increases the agility of the news production cycle and the physical mobility of the journalist; H2: the mojo kit increases the flexibility of the production of news content in different formats; H3: the mojo kit facilitates journalists’ access to remote locations and their approach to interviewees. According to the definition of Johnson et al. (2007),

Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration. (Johnson et al., 2007, p.123).

A survey was therefore primarily designed as a data collection instrument, to assess what the mobile journalists themselves think about the various hypotheses, using a scale between total agreement and total disagreement. The intention is to use the data that is generated to evaluate whether or not the qualities highlighted in mojo are confirmed in the reality of fieldwork or not, as well as to provide clues that identify possible evolution paths for this technique.

The survey was organized succinctly and in sections with the following flow of multiple-choice questions (Stockemer, 2018): the first question ensures that participants provided their data voluntarily; the second was a filter question to ascertain whether they had had any experience with mojo; then more four questions about identification (age, gender, years of profession, and country of work); and finally, 12 mojo-related questions, four for each characteristic.

The answer options were arranged on a scale with six values, ranging from “strongly disagree” to “strongly agree”, so the values one, two, and three show a disagreement with the question (at different levels), and the values four, five, and six do the same when it comes to agreeing. A neutral value, which corresponds to an option in the middle of the scale, was not used (Stockemer, 2018). The justification was that participants who were asked the filter question are all journalists who have had some experience with mojo and are therefore in a position to agree or disagree with each question.

The target population was made up of journalists who use mobile devices, particularly smartphones, in their professional work. However, there is something unusual about this situation: there is no homogeneity. Many professionals use their smartphones to produce news content and develop the mojo technique in their work routine, but not all define themselves as mobile journalists or even know what mojo is.

With this in mind, the researcher sought to find something that came closer to a uniform set of mobile journalists. The Facebook group “#mojofest community – Where the global Mojo Community meet and share”⁴ was the first group that was found. The group

aims to discuss technical and theoretical issues about *mojo* and had 6.177 members as of 16 March 2020. The second group of mobile journalists found was a list⁵ available on the smartphone accessories company *Shoulderpod* website. The list contains 55 names of experts and trainers from five continents and their respective e-mails.

Google Forms served as a platform for the survey, and the link was disseminated in a Facebook group post, identifying its researcher and explaining the purpose of the research. Contact was made with the journalists individually per email. For the list of specialists, contact was made, individually, via e-mail. There were 55 responses, 53 of which were valid (two did not pass the filter question). The data collection period was from 16 March 2020 to 28 April the same year, and IBM SPSS Statistics 20 software was used for processing the data.

The second part of the research uses the semi-structured interview method to collect data. According to Quivy & Campenhoudt (2005), this is a method in which the researcher prepares a series of open-ended questions to be asked of interviewees to elicit information about their perceptions, interpretations, or experiences.

At the end of the survey, all participants had to decide if they would participate in a second phase of the research or not. Twenty-three respondents answered positively, filling in the last question with their e-mail address and agreeing to participate in an interview. The selection of four mobile journalists was based on the criteria of feasibility and diversity among the participants (Guerra, 2006), in terms of nationality, the news formats they work with, and the opinions they expressed about *mojo* in the survey

At this point, it is important to highlight two observations. The first is regarding gender diversity: only one woman was willing to participate in the second phase, and when contacted, declined the invitation. The second is about the concept of saturation discussed by Isabel Carvalho Guerra (2006) in her book on qualitative research. It warns that the researcher should continue with the interviews until the responses do not return any more different data, reaching saturation. In the case of this exploratory study, this concept does not apply. Guerra says about this: "in exploratory status, the researcher must ensure diversity of speakers but does not need to ensure saturation" (Guerra, 2006, p.33, our translation).

Therefore, the interviewees were:

- Tom Rumes. Belgian journalist with experience in video journalism. He is a director and professor of storytelling at Tomas More University. He develops consulting and mojo training programs for media companies, including VRT, the Belgian television broadcaster. He is co-author of the book *How to Story – Storytelling for Journalists*.
- Stephen Quinn. Former English journalist for the BBC and The Guardian. He currently works as a mojo lecturer at Kristiania University in Norway and provides digital communication consultancy for companies. He is co-author of *MOJO: Mobile Journalism in the Asian Region* and *Mojo: The Mobile Journalism Handbook*.
- Francesco Facchini. Italian journalist with professional experiences in print, digital, and radio media. He is a reference in mojo in Italy, where he provides consultancy in the creation of mobile content. He has taught digital journalism and mobile journalism at LUMSA University and IULM University, both in Italy.
- Pipo Serrano. Spanish journalist and professor of digital journalism at the University of New Haven and in the Masters of Journalism School at Columbia University in partnership with the University of Barcelona. He has coordinated mojo coverage of international events and is the author of the book *La transformación digital de una redacción y el periodismo móvil (mojo)*.

All four interviewees answered the same questions. But the direction of the questions changed according to the answers given by each in the survey. For example, for someone who had agreed with the mojo agility issue, the researcher asked what aspects made them agree with this. On the other hand, in the case of someone who had disagreed with this particular subject, the researcher asked what elements contributed to this disagreement. In this way, the participants' answers could be compared with each other. The interview script starts with more general questions about experiences with mojo, then narrows down to the themes approached in the survey, and then finishes with a question about the future of the mojo.

All interviews were conducted in English via Skype during May 2020, and lasted between 30 and 50 minutes. Some excerpts from the interviewees' speeches were selected and are shown later in the data analysis chapter.

4 Quantitative analysis

Overall, the survey participants confirmed the three research hypotheses regarding the characteristics of the agility, flexibility, and accessibility of mojo. However, it is both necessary and relevant to do a deeper descriptive analysis of the data collected.

The sample of 53 individuals is made up of 45 men and eight women from 24 different nationalities, the majority of who come from the United Kingdom and the United States with a total of seven responses from each country. Ages range from 21 to 66, and more than half of the sample (29 replies) had more than 20 years of experience as a journalist.

Concerning agility during the news production cycle, the vast majority of participants opted for the option follow-up, meaning that on the six-value scale, polarised between “strongly disagree” and “strongly agree”, they chose one of the three agreement values (four, five or six). This was due to the increase in the agility of the production (51 replies), editing (48 replies), and distribution (51 replies) of news content when the professional works with the mojo kit. While the suitability of smartphones as an instant recording tool and their ubiquity may explain the high concordance rate in the production and distribution phases, their small screens, which make editing work difficult, may have to do with the fall in agreement in the editing phase.

Participants also agreed (48 replies in the agreement follow-up) that the journalist gains agility in fieldwork when using the mojo kit. However, this question had a response of “strongly disagree”. As discussed, mojo agility is associated with the number of items they carry and whether they can pack them inside a small, lightweight bag.

As far as the variety of news formats is concerned, 46 people replied that they work with more than one format, and video was the main one, produced by 52 individuals in the sample; the next is the photo with 40 responses, audio with 30, live broadcast with 29, and text with 24; the news content edited in formats of podcast or 360° video was also mentioned in the “other” response field, by one person. Moreover, the answer that appeared the most (12 times) was the one that combined all the format options. For the question “You have good flexibility to work with different formats of news content when working with a mojo kit”, 50 people chose the agreement follow-up, with 36 responses in total agreement. These results support the hypothesis that the professional profile of mobile journalists is one capable of working with various news formats.

However, this optimism was short-lived when it came to the statement relating to the quality of the material produced. Ten individuals opted for the disagreement follow-up to the question: “Smartphone gears allow you to produce news content with the same quality as on professional cameras and equipment”. Similarly, ten

participants chose the disagree segment to the question: “Smartphone apps allow you to produce news content with the same quality as on the desktop”. It is an indication that the quality of the material produced by the mojo kit appears to be lower than that produced with professional equipment.

In the next section about physical and geographical accessibility, 50 journalists placed themselves in the follow-up of agreement to the question “You are able to work through the entire news production cycle (production, edition, and distribution) away from the newsroom using just a mojo kit”. The same occurred with the statement “The usage of the mojo kit facilitates work in hard-to-reach areas (conflict areas, natural disasters, and humanitarian crises)”, with an equal number of responses to the following agreement. These results confirm that mojo is suitable for fieldwork in conflict areas, where journalist accessibility and safety depend on factors such as autonomy and discretion.

In as far as accessing people to interview is concerned, the majority (51 replies) agree to some level with the question: “A journalist can interview people in everyday situations more easily when working with a mojo kit”. However, the number of answers in the disagree segment increases to 11 when the question is: “A journalist can make interviews with authorities (political, artistic, scientific) more easily when working with a mojo kit”. In this way, the data confirm Panu Karhunen’s (2017) argument that mojo kit interviews are less intrusive for ordinary people but may generate distrust from interviewees used to big productions.

5 Qualitative analysis

The result of the qualitative research further reinforced the hypothesis that the mobile journalist is capable of producing news content in various formats in an agile and independent manner. More than that, it demonstrated that these are the demands of the media market in the 21st century.

In a general overview, the interviewees agreed with the characteristics of agility, flexibility, and accessibility. However, there were also occasional disagreements. For example, about the mojo definition itself, whether editing on smartphones is effective, and whether individualized work might be safer in conflict areas.

Stephen Quinn argues that all stages of the news production cycle should be done on a single mobile device. Otherwise, it reduces mobility and speed in production and is no longer *mojo*. He was the only one who considered it that way. However, he admitted that there are situations in which this technique is not efficient. He cited two examples: sporting events because the recordings with the smartphone camera do not look good when you have to make sudden movements with the device or use the zoom to reach the athletes; and in circumstances of danger and war, for security reasons. According to him, colleague journalists can look after each other when they are in large teams, which is not the case when working alone. It contradicts the hypothesis tested in the survey that the *mojo* kit facilitates the mobile journalist to access and stay in conflict areas.

For the other three interviewees, the workflow can be less rigid and combine *mojo* with traditional journalism techniques. Tom Rumes, for example, admitted that he sometimes chooses professional cameras and edits the material on his personal computer. The choice depends on the news format he will produce, the storytelling, the skills required for the service, and the platforms he will use to publish the content. However, he favors the smartphone when his work requires agility in the production and distribution of news content.

Pipo Serrano used the metaphor of a Swiss army knife, which has several tools suitable for each situation, to explain when he chooses to work with *mojo* or traditional journalism. When the journalist interviews just one person or records a short statement from someone, for example, “I do not need to send a crew with a cameraman, and a journalist, all there, just one journalist with his *mojo* kit is enough. Otherwise, I choose a film crew to go and do news coverage of complex issues that I want to add some extra value with images”, he explained⁷. The journalist also relativized the efficiency of editing on the smartphone, as the small screen and the touchscreen system make the work difficult. “I have never asked any journalist, or myself, to edit on a phone. Never. If we consider a good edition. Although if we talk about creating a quick, ‘fast-food’ content, yeah, maybe you can use an app and create a video quickly”, Serrano admitted.

Francesco Facchini also considers that “there will always be a need to have videographers with [professional] cameras on some occasions”⁸. In his view, *mojo* is a “different language”, “easy to use and learn”, that gives journalists “greater freedom and speed” to work and “costs less”. It is interesting to note that both Pipo and Facchini

relativized the term “mobile journalism”. Pipo argued that “we are all journalists”, whereas Facchini went further: “the definition ‘mobile journalism’ could end because it is modern journalism [...]. Because it is simply a new way of doing journalism”.

Another relevant point in his comments is the defense of a new type of behavior used by mobile journalists. It is not just about introducing mobile devices in the work routine, but about a “change of mindset”: the way the professional faces the work of producing news. As Quinn sees it, new communication technologies combined with “an entrepreneurial and innovative mindset”⁹ create new professional opportunities. For example, the journalist can extrapolate his work shift and become “a journalist 24/7”. It means that they can produce news 24 hours a day, seven days a week.

A further advantage is to have more autonomy in the function, considering the context of shrinking jobs and the individualization of work. He gave the example of NRK, the Norwegian government-owned radio and television public broadcasting company, which has reduced teams of correspondents spread across Europe by using “mojo” employees: “They turned a lot of remote ‘euros’ [broadcaster’s correspondents in Europe] into one person mojo. They must do everything”. He continued: “Working remotely is a great opportunity for ‘mojos’. What you need to have is a sort of mindset in the journalist. They are willing to learn how to use technology appropriately and be a single operator”.

On this matter, Facchini said that “it is not a question of technology. It is a question of mindset because you have to behave differently”. This different way, he says, boils down to being more agile: “You have to be fast when you are in the field and fast when you edit the material at the end”. However, multitasking requires a more complex organization. In addition, the mobile journalist has to deal with the three main limitations of the mojo kit mentioned by Facchini: power and file storage space of the mobile phone and zoom. Therefore, the mobile journalist has to think about framing the scene in advance and organizing his work alone to overcome these limitations.

However, according to Serrano, smartphones can be advantageous to “get better stories” and “more real stories” when filming interviews. The same was true of Facchini: “When you are interviewing with a smartphone, people are less afraid and give you more real content. [...] And it gives you the possibility of making and delivering more interesting content with a smartphone than with a camera”.

All interviewees agreed with the *mojo*'s agility in producing and distributing news. "I turn [the smartphone] on, and I don't wait more than five seconds before I can film. That's a big difference with the big cameras because you have to set the tripod, you have to do the white balance, you have to focus, you have to set the lens, and so on", said Rumes¹⁰. Besides, the smartphone allows you to record short content in video, audio, or text and publish them immediately on social networks. "You can create a quick video to spread a news story that will be broadcast on the evening TV news", Serrano explained.

The interviewees also considered the topic of agility in terms of the mobility of the mobile journalist. Serrano used the example of the reporter who boards the plane without facing so much bureaucracy because they do not carry any equipment that must be declared at the airport customs. He mentioned the time he sent a mobile journalist to investigate a terrorist attack in Paris and advised him, "Once you get off the plane in Paris, you can broadcast the event live. It's much easier". As soon as the correspondent arrived in the city, he started producing and sending material using his smartphone. However, Rumes, Facchini, and Serrano made the caveat that too many items in the *mojo* kit can compromise this agility. "If you waste half an hour putting all the equipment together you lose the advantage of the smartphone", Rumes warned.

The characteristic of flexibility appeared less in the interviewees' discourse. On this subject, Serrano noted that "apart from the writing, we need to add extra visual or audio content" to enhance the news. According to him, working with different news formats is not something exclusive to *mojo* because it is a requirement of digital journalism produced in the 21st century. "We tend to think that we either do old journalism, or we do *mojo*, or we do something modern. No. We do journalism in the 21st century. And if someone does not understand that journalism in the 21st century is a mix of all formats, then they have never understood anything", the Spanish journalist replied. In this respect, Rumes said the mobile journalist needs to know how to operate in both traditional and new digital media, such as Instagram, Twitter, and YouTube, to stay relevant to audiences.

The quality of the content produced by mobile journalists, however, was a controversial issue. All the journalists interviewed commented on this issue, arguing that it is possible to produce news content, with professional quality, using the *mojo* kit; but they made some reservations. For example, Rumes recognized that when an

entire film crew is replaced by a single mobile journalist, the quality of the product is often not the same. “The journalist will record the sound and also do the camera work. Does it affect the quality of the journalism? Yes. I mean, you have to be honest, you will see some differences in the sound, you will see some differences in the image”, he acknowledged. But, according to him, the mojo kit is enough to produce radio journalism: “Radio journalists are producing audio content only with a smartphone. So do not tell me that the sound quality [of the smartphone] is not good”.

When it comes to audio-visual production, Rumes explained that working with professional film cameras is complex because this sort of equipment requires higher expertise from the operator (there are many buttons and features on it that the operator must control). That is why they are not suitable for journalists’ solo work. It is precisely this possibility of working alone that he emphasizes in mobile devices: “Nowadays, cameras are much cheaper, much easier to use, and if you work in automatic mode, for example, the result is quite good”, Rumes pondered.

Continuing on this issue, Quinn acknowledged that there is a gap in providing efficient mobile applications to work through all stages of the news production cycle. He also pointed out that “patchy videos” often occur when the mobile journalist films in low-light environments, or uses the device’s zoom, or shakes the mobile phone’s camera. However, the English journalist affirmed that “lack of training” is the main reason for the low quality of content often developed by mobile journalists.

On the other hand, the quality of the content may not necessarily cause any problems if the device with which people will consume the news is also a smartphone, Facchini considered. “The percentage of digital content consumption via mobile devices has probably grown by as much as 75%. What does this mean? That the technical quality of the video or the frame rate is not as important because most consumption occurs on small screens”. In other words, the difference between a video with 4K resolution and one in Full HD is not noticeable. The same goes for audio captured at 48 kHz and another at 96 kHz. Facchini advised attention to coverage and “to deliver more interesting content using a smartphone” rather than being overly concerned with the technical quality of the material.

Serrano preferred to highlight the shifting opinion of those who disqualified mojo production as a “low-cost option”. In his view,

the content created using smartphones is different, and the result depends mainly on the editor's skills. But its quality can reach a professional level. The Spanish journalist commented on not warning the audience that some reports were made using smartphones when he incorporated mojo into the production team of the show "8 al Dia", broadcast by the Catalan TV channel 8TV. However, he admits that he never received any complaints that some TV reports were of worse quality than others.

But not all interviewees agree with this view. Rumes points out that there can be differences in quality between a video recorded by a mobile phone and another by a professional camera. And the audience perceives this: "People will understand that maybe the sound quality is not perfect, maybe the image quality is not perfect".

The experts also addressed two other advantages of mojo in their feedback. The first was the mobile journalist's readiness to investigate and cover unexpected events, as they carry their work tool most of the time. Normally, you always take your smartphone with you everywhere in your pocket or in a bag. And the other one was the advantage of recording in forbidden places such as museums and train stations. On this, Serrano commented: "My correspondent in Brussels was not allowed to record in certain places inside the European Parliament with a camera. But he was allowed to do it with a phone. [...] So we had images that nobody ever had because we were going live, explaining things and he was recording with a phone. He didn't even have to ask permission for anything. It was fast and easy".

The four journalists also confirmed that people feel more comfortable talking when journalists conduct the interview using just a mojo kit. According to them, it is because people are already used to filming or being filmed with smartphones. However, it does not mean that recording interviews with the mojo kit are any simpler. Quinn warned that mobile journalists accumulate duties during the interview. For example, they have to listen carefully to the interviewee, asking pertinent questions, and dealing with recording the audio and image at the same time. Therefore, he recommended mobile journalists to make sure that everything is working correctly before starting the interview: if the audio is being recorded properly if the interviewee is framed appropriately in the image, if the smartphone has enough power and is in airplane mode, and do not forget to make arrangements with the interviewee beforehand to ensure they do not

walk or leave the scene framing during the interview, so the mobile journalist does not need to move or use the device's zoom.

Rumes, Facchini, and Quinn agreed that interviewing public figures or celebrities with the mojo kit is generally more challenging. The English journalist complained that “people with big egos will only be interviewed [...] by a team of journalists who use professional cameras with a patch from a news organization because this is good for their ego. They think it is real journalism”. Experts believe this behavior is changing as more journalists use their smartphones as a work tool.

The experts also gave their opinions on the changes in the business model in media companies. According to Rumes, the main reason for the adoption of mojo in newsrooms is budget, as the cost of the equipment is lower and requires fewer employees. Serrano also believes that the central motivation “is price and effectiveness, and the way you can send one guy to do everything”. But he complained that it shouldn't be like this. In his view, the mojo technique should be used only in specific circumstances, when only one journalist is enough to do the job. Meanwhile, Quinn noted that the adoption of mojo in newsrooms could increase: “if advertising or revenue decreases and the newsroom shrinks and loses staff as a consequence, my finding is that mojo has great potential to fill the gaps if it has fewer journalists”. The English journalist also reflected that because of the covid-19 pandemic, “journalists have been forced to become mojos because they are all operating from home and doing interviews by Skype or Zoom”.

On the future of mojo, Facchini predicted that “after [the pandemic of] covid-19, we will find a different world in which mobile content creation will be the main language used for storytelling in any kind of activity”, and the mobile journalist has the experience to provide this demand. According to him, “the way to turn the [mojo] community into something that will become mainstream” and subsequently increase its employability is connections with other areas, becoming “something wider than a mobile journalist”. In other words, he suggests that mobile journalists take advantage of their ability to produce digital content to broaden their area of expertise. “We have to continue [...] seeking a match with the world of broadcasting, the world of content production, the world of marketing, media companies, and so on”, Facchini advised.

6 General data analysis

The empirical research has shown that despite some initial resistance, the practice of mobile journalism has become increasingly popular among journalists, who have developed the technique of journalistic production with mobile devices as part of their daily work routine even when they are unaware of the concept of *mojo*. This change is related to the improvement of mobile devices and it has therefore become possible to produce news content in various formats, at a low cost and professional quality.

Therefore, it is a journalistic technique that has developed from the breakthrough of new communication technologies and the innovative news format promoted by these tools. In this sense, the professional should be aware of the technological innovations of mobile devices and take advantage of their originality. An interview recorded with a smartphone camera is not the same as one conducted with a professional camera because the interviewee behaves differently, and the conditions are not the same. In addition to making interviewees feel more comfortable, the mobile journalist can work with an angle variety and movements that the mobile device facilitates.

However, the data gathered in the survey and the interviews pointed out that there is room and need to invest and advance the *mojo* in terms of quality of its news productions and especially in its audio-visual format, which is the one used most by the mobile journalists who participated in the research. The data also revealed that *mojo* is not an absolute technique, but should be used alongside other more traditional (non-mobile) tools. For example, when the smartphone gadgets and features are not sufficient enough to reach the desired quality. Indeed, a professional camera zoom works better than smartphone zoom in situations where the object you want to capture is moving or far away from the journalist. In the same way, it is more comfortable and efficient to edit audio-visual or sound material on a computer, which has a larger screen and more software options to perform this task.

As far as the hypotheses on the characteristics of *mojo* are concerned, both types of research confirmed the following: that the mobile journalist can produce news content more quickly and with a greater variety of formats working with *kit mojo* and he also has easier access to remote locations and in approaching people for interviews.

Furthermore, the mobile journalist works independently at all stages of the news production cycle and may be away from the newsroom.

In this sense, the discourse of the “new mentality” is seen from a critical perspective. It means that the condition of the journalist’s craft of working alone is presented as a conquest for greater autonomy. It is evident in Gregory Perreault and Kellie Stanfield’s (2018, p.13) findings, in their work with 39 mobile journalists of diverse nationalities, that the “mobile production was a way in which journalists could argue for their continued validity in the newsroom – and as such, it serves as a form of job security”.

Although these changes are currently inevitable and represent “the next step in a rapidly changing technological environment that allows for greater flexibility and eliminates unnecessary positions” (Blankenship & Riffe, 2019, p.2), according to Justin C. Blankenship and Daniel Riffe, this creates new issues for journalism. Besides the physical restrictions of working alone because they do not have the help of colleagues, the researchers observed during their investigation of individualized work in local television stations in the United States, the real fear of workers that “by asking a single person to take on the responsibilities of multiple people, the quality of the journalism produced will inevitably suffer” (2019, p.2).

7 Conclusion

Mobile journalism is becoming an increasingly popular practice in the field of journalism. It is because mobile devices have taken the lead in the production of digital news content, as well as being the device most used by the public for news consumption (Newman et al., 2019). As a result, traditional media companies such as the BBC and Al Jazeera have encouraged their staff to work in this way (Maccise & Marai, 2017; Settle, 2018; Shaw, 2018).

However, mobile journalism has not yet become fully recognized within the journalism field and still needs further research and peer recognition (Bourdieu, 1983). In this sense, Oscar Westlund (2019, p.1) acknowledged that “it still comprises an emerging and relatively immature area of research”, as did López-García et al. (2019, p.10) stressing that “the phenomenon of mobile journalism has not yet been unanimously conceptualised in Academia”.

This study, whose main objective is to contribute to the consolidation of this field, understands that the causes of these changes in journalism are deeper and more structural, not necessarily linked to the implementation of new technology in the journalists' routine (Rodrigues et al., 2020). The *mojo* and its characteristics of agility, flexibility, and accessibility are associated with the features of 21st-century journalism (Rodrigues et al., 2020), such as the reduction of revenues and newsrooms (Marshall, 2008), the growth of digital journalism (Newman et al., 2019), and the job market's preference for multitasking professionals (Blankenship & Riffe, 2019). Besides, the *mojo* expresses the tendency that journalists' work is becoming more individualized and their contents geared towards the web (Rodrigues et al., 2020).

NOTES

- 1 Travancas, I. (2011). *O mundo dos jornalistas* (4th ed.). São Paulo: Summus.
- 2 The number of journalists killed on the work shift in 2019 was the lowest recorded since the Committee to Protect Journalists (CPJ) began monitoring occurrences 17 years ago. There were at least 25 deaths in 2019, and Syria and Mexico were the countries with the highest number of cases. The report, released annually by the organization, considers deaths of journalists that occurred "in direct reprisal for their work; by combat-related crossfire; or while conducting dangerous coverage" (our translation). Retrieved from <https://cpj.org/pt/2019/12/siria-e-mexico-foram-os-paises-mais-letais-para-jo.php>. Access on: January 2020.
- 3 Retrieved from www.youtube.com/watch?v=VnvPXspjLtU. Access on: February 2020.
- 4 Retrieved from www.facebook.com/groups/mojofest/. Access on: February 2020.
- 5 Retrieved from www.shoulderpod.com/the-mobile-trainers-world-catalogue. Access on: February 2020.
- 6 Poupart, J. (1997). *L'Entretien de Type Qualitatif: Considérations Épistémologiques, Théoriques et Méthodologiques*. In Poupart et al. (Eds.), *La Recherche Qualitative, Enjeux Épistémologiques et Méthodologiques* (pp.173–209). Canada: Gaetan Morin.

- 7 All quotes referring to Pipo Serrano are taken from an interview granted in 2020/05/21.
- 8 All quotes referring to Francesco Facchini are taken from an interview granted in 2020/05/16.
- 9 All quotes referring to Stephen Quinn are taken from an interview granted in 2020/05/10.
- 10 All quotes referring to Tom Rumes are taken from an interview granted in 2020/05/08.

REFERENCES

Adornato, A. (2017). *Mobile and social media journalism: A practical guide*. California: CQ Press/SAGE.

APPS for mobile photography, video and social media. (n.d). Mobile Journalism Manual. Retrieved from www.mojo-manual.org/mojo-manual-apps/

Barbosa, S., & Mielniczuk, L. (2013). *Jornalismo e Tecnologias Móveis*. Covilhã: LabCom.

Blankenship, J. C., & Riffe, D. (2019). Follow the Leader?: Optimism and Efficacy on Solo Journalism of Local Television Journalists and News Directors. *Journalism Practice*, 15(1), 41–62. DOI: 10.1080/17512786.2019.1695535

Bourdieu, P. (1983). O Campo Científico. In R. Ortiz (Ed.), *Coleção Grandes Cientistas Sociais* (pp.122–155). São Paulo: Ática.

Briggs, M. (2007). *Journalism 2.0: How to Survive and Thrive*. Retrieved from https://digitalcommons.usf.edu/oa_textbooks/2

Burum, I. (2016). Introduction. In I. Burum (Ed.), *Democratizing journalism through mobile media: the mojo revolution* (pp.1–17). New York: Routledge. DOI: 10.4324/9781315630335

Canavilhas, J. (2021). Epistemology of mobile journalism. A review. *Profesional de la información*, 30(1), 1–21. DOI: 10.3145/epi.2021.ene.03

Canavilhas, J., Rodrigues, C., & Giacomelli, F. (2019). *Narrativas jornalísticas para dispositivos móveis*. Covilhã: LabCom.

Canavilhas, J., & Satuf, I. (2015). *Jornalismo para Dispositivos Móveis: Produção, distribuição e consumo*. Covilhã: LabCom.

Crespo, M., Azevedo, J., Sousa, J., Cardoso, G., & Paisana, M. (2017). *Jornalistas e Condições Laborais: Retrato de uma Profissão em Transformação*. Observatório da Comunicação (OberCom). Retrieved from https://obercom.pt/wp-content/uploads/2017/03/2017_OBERCOM_Jornalistas_Condicoes_Laborais.pdf

Eldridge, S. A., Hess, K., Tandoc, E., & Westlund, O. (2019). Editorial: Digital Journalism (Studies)–Defining the Field. *Digital Journalism*, 7(3), 315–319. DOI: 10.1080/21670811.2019.1587308

Fairweather, T. (2016, March 16). How a Sky News reporter uses her mobile phone to ‘go live’ in 90 seconds. *Newsrewired*. Retrieved from www.newsrewired.com/2016/03/16/how-a-sky-news-reporter-uses-her-mobile-phone-to-go-live-in-90-seconds/

Garnett, N. (2015). Reporting Nepal: One man, his mobile kit and the battle to connect. *BBC Academy Blog*. Retrieved from www.bbc.co.uk/blogs/collegeofjournalism/entries/1ea0273d-c585-4362-91e0-f1cfeb9a50a

Gil, A. C. (2008). *Métodos e técnicas de pesquisa social* (6th ed.). São Paulo: Atlas.

Guerra, I. C. (2006). *Pesquisa Qualitativa e Análise de Conteúdo – Sentidos e formas de uso*. Cascais: Príncipeia.

Jenkins, H. (2006). *Convergence culture: Where old and new media collide*. New York University Press.

Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a Definition of Mixed Methods Research. *Journal of Mixed Methods Research*, 1(2), 112–133. DOI: 10.1177/1558689806298224

Karhunen, P. (2017). *Closer to the Story? Accessibility and Mobile Journalism*. Reuters Institute: University of Oxford. Retrieved from <https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2017-09/Karhunen%2C%20Accessibility%20and%20Mobile%20Journalism.pdf>

López-García, X., Silva-Rodríguez, A., Vizoso-García, Á. A., Westlund, O., & Canavilhas, J. (2019). Mobile journalism: Systematic literature review. *Comunicar*, 27(59), 09–18. DOI: 10.3916/C59-2019-01

Maccise, D. L., & Marai, M. (2017). *Mobile Journalism*. Al Jazeera Media Training and Development Centre. Retrieved from https://institute.aljazeera.net/sites/default/files/2018/mobile_journalism_english.pdf

Marshall, T. (2008, July 21). The Changing Newsroom. *Pew Research Center*. Retrieved from www.journalism.org/2008/07/21/the-changing-newsroom-2/

Mills, J., Egglestone, P., Rashid, O., & Väättäjä, H. (2012). MoJo in action: The use of mobiles in conflict, community, and cross-platform journalism. *Continuum: Journal of Media & Cultural Studies*, 26(5), 669–683. DOI: 10.1080/10304312.2012.706457

Newman, N., Fletcher, R., Kalogeropoulos, A., & Nielsen, R. K. (2019). *Digital News Report 2019*. Reuters Institute. University of Oxford. Retrieved from https://reutersinstitute.politics.ox.ac.uk/sites/default/files/inline-files/DNR_2019_FINAL.pdf

Perreault, G., & Stanfield, K. (2018). Mobile Journalism as Lifestyle Journalism? *Journalism Practice*, 13(3), 331–348. DOI: 10.1080/17512786.2018.1424021

Quinn, S. (2009). MoJo – Mobile Journalism in the Asian Region. *Konrad-Adenauer-Stiftung*. Retrieved from www.ired.org/modules/infodoc/files/english/mojo_mobile_journalism_in_the_asian_region.pdf

Quivy, R., & Campenhoudt, L. Van. (2005). *Manual de Investigação em Ciências Sociais* (4th ed.). Lisboa: Gradiva.

Rodrigues, L. P., Baldi, V., & Gala, A. (2020). Jornalismo móvel e novas formas de produzir conteúdo jornalístico. *Proceedings of the 4^a Conferência Internacional de Design e Comunicação Digital (Digicom 2020)*. Barcelos, Portugal: Instituto Politécnico do Cávado e do Ave (IPCA). Retrieved from https://digicom.ipca.pt/docs/DIGICOM2020-Atas_PT-ES.pdf

Satuf, I. (2015). Jornalismo móvel: Da prática à investigação acadêmica. In J. Canavilhas & I. Satuf (Eds.), *Jornalismo para Dispositivos Móveis: Produção, distribuição e consumo* (pp.441–468). Covilhã: LabCom.

Settle, M. (2018, February 08). How to improve your mojo skills by sacrificing a latte. *BBC Academy Blog*. Retrieved from www.bbc.co.uk/blogs/academy/entries/fafb0b78-b9cf-4218-81ec-b3f109d85225

Shaw, D. (2018, August 31). My Mojo Diet: Two years on. *BBC Academy Blog*. Retrieved from www.bbc.co.uk/blogs/academy/entries/7bd621af-5e57-47a5-a809-5463baa4f53b

Shoulderpod. (n.d). What is mobile journalism. Retrieved from www.shoulderpod.com/mobile-journalism

Silva, F. F. (2013). *Jornalismo Móvel Digital: uso das tecnologias móveis digitais e a reconfiguração das rotinas de produção da reportagem de campo* [doctoral dissertation, Universidade Federal da Bahia]. Repositório Institucional da Universidade Federal da Bahia.

Stensen, S., & Westlund, O. (2020). *What is Digital Journalism Studies?* London: Routledge. DOI: 10.4324/9780429259555

Stockemer, D. (2018). *Quantitative Methods for the Social Sciences: A Practical Introduction with Examples in SPSS and Stata*. Cham: Springer. DOI: 10.1007/978-3-319-99118-4

The benefits of mobile Journalism. (n.d). Mobile Journalism Manual. Retrieved from www.mojo-manual.org/benefits-of-mobile-journalism/

Tompkins, A. (2009, August 24). New Mexico Reporter Uses iPhone & Qik to Broadcast Live Story. *Poynter*. Retrieved from www.poynter.org/reporting-editing/2009/new-mexico-reporter-uses-iphone-qik-to-broadcast-live-story/

What is mobile journalism? (n.d). Mobile Journalism Manual. Retrieved from www.mojo-manual.org/understanding-mobile-journalism/

Urbauer, L. (2019, April 13). How Solutions Journalism gave BBC's Dougal Shaw a beat. *The Whole Story*. Retrieved from <https://thewholestory.solutionsjournalism.org/how-solutions-journalism-gave-dougal-shaw-a-beat-e696906da63e>

Westlund, O. (2015). News consumption in an age of mobile media: Patterns, people, place, and participation. *Mobile Media and Communication*, 3(2), 151–159. DOI: 10.1177/2050157914563369

Westlund, O. (2019). Mobile Journalism. In T. P. Vos & F. Hanusch (Eds.), *The International Encyclopedia of Journalism Studies* (pp.1–8). Oxford: Wiley-Blackwell. DOI: 10.1002/9781118841570.iejs0191

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