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## How COVID-19 is Revamping Journalism: Newsroom Practices and Innovations in a Crisis Context

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### ABSTRACT

Worldwide audiences became interested in COVID-19-related news, as the health emergency generated a sharp increase in information consumption. Drawing on the literature of crisis innovation, this study aims to understand the transformations that have taken place in the Spanish journalistic industry and the innovations implemented during the pandemic. The research questions are: How has COVID-19 fostered innovation in work organisation in the Spanish newsrooms? What other innovations were launched by the Spanish media during the pandemic? The methodology is based on semi-structured interviews conducted with a purposive sample of 20 media practitioners and 20 experts on journalism innovation (academics and journalists) in Spain. Results show that newsroom practices have evolved through telework, collaboration and other factors, and that digital transformation was accelerated in legacy media. In many outlets, the science section was increasingly relevant, working in a coordinated way with the areas of data visualisation and design to produce relevant content. Also, fact-checkers played an important role in fighting misinformation. The pandemic has speeded up some ongoing innovations in news production, newsroom organisation, distribution, and commercialisation in a significant way. Thus, COVID-19 understood as a crisis situation has had an impact on news products and it has affected journalistic culture.

### KEYWORDS

Journalism innovation; news practices; COVID-19; media crisis; journalistic change; newsroom organisation; teleworking

## Introduction

COVID-19 has transformed the ways the news is produced, distributed, and consumed (Lee 2021). For news organisations, covering a health pandemic during home confinement was a huge challenge (Kim 2020), as companies changed organisational routines and implemented teleworking (Belzunegui-Eraso and Erro-Garcés 2020). During the confinement, newsrooms used most of their resources to cover the health emergency and faced the difficulties derived from the situation. Digital technology played an important role in the crisis by providing virtual opportunities for social connection and teleworking (Vyas and Butakhieo 2021).

The pandemic led to the closure or downsizing of news companies that were not able to manage the crisis, affected by an economic deceleration that threatens their continuity,

at a time where journalism plays a key role in the fight against misinformation (Alam et al. 2020). The multiplication of content on social media (Park, Biddix, and Park 2021), often uncontrolled, led to an increase in the fight against disinformation (Silva-Rodríguez 2021). The consequences of the pandemic even affected the business model of many Spanish news outlets with decreasing advertising income (Corredor-Lanas, Marcos-Recio, and Montañés-García 2021).

Editors went to great lengths to coordinate teams and manage the different tasks. Research on leadership during the COVID-19 pandemic suggests that managers adopted a supportive role, such as engaging in open communication by restoring trust, building relationships, and prioritising employee's emotional stability (Bartsch et al. 2020; Waizenegger et al. 2020). A study on Swedish media management during the pandemic (Appelgren 2022) showed that managers had confidence in their remote leadership and learned to appreciate remote work, stressing the difficulty of being an inspiring leader in a remote setting and the challenge of motivating creativity.

On the other hand, worldwide audiences became interested in COVID-19-related news and services, as publishers sought a stronger and deeper connection with readers and the health emergency generated a sharp increase in news consumption (Newman et al. 2021). The need to obtain reliable information about the pandemic, to reduce anxiety and to understand its consequences, stimulated an increase in the demand for news, both in legacy and digital media. In this way, journalistic information became a product with a high social value.

However, the fact that the journalistic product gained importance among the audience did not imply in all cases a direct benefit for the media, which saw their main sources of income falter. This is a paradox conditioned by an unprecedented moment of crisis (Casero-Ripollés 2021). Yet the experience with previous crises shows how these events can become catalysts for innovation and new practices. In this case, the consequences of COVID-19 go beyond the health sphere and generate social and economic challenges, also for journalism, as it has opened new starting points for journalistic practices as well as for its transformation (Quandt and Wahl-Jorgensen 2021).

A report by McKinsey (2020) explores how crises of different kinds (economic, climate, health), despite having serious financial and human consequences for society, generate dynamics that inspire companies to come up with disruptive solutions. Examples include the boost to the collaborative economy during the 2008 economic crisis, the rise of e-commerce during the SARS health crisis in 2002, or new business opportunities born out of the current climate crisis.

The health crisis has deepened existing problems in the media industry, especially for many regional and local newspapers with a broken business model (Hess and Waller 2021; Finneman, Mari, and Thomas 2021). The pandemic has also accentuated latent problems such as misinformation spread through hoaxes and the need to increase fact-checking processes (Cifuentes-Faura 2020; Magallón-Rosa and Sánchez Duarte 2021). But these issues have also accelerated changes in news production, distribution, consumption, and business models in a way that, in other contexts, would have been different (Olsen, Pickard, and Westlund 2020).

The literature on how a crisis affects innovation processes is fundamentally focused on economic crises and points results in two directions: a crisis can lead to a loss of productivity (Hall 2015) or, on the other hand, it could also be an opportunity to reshape

innovation efforts towards more efficient organisations (Manso, Balsmeier, and Fleming 2019). According to Babina, Bernstein, and Mezzanotti (2020), to understand the impact of a crisis, it is crucial to examine the effect on the innovation ecosystem in general terms, not only attending to the purely economic impacts, but also analysing the effects on the organisational structures.

Our study of journalism innovations during the COVID-19 crisis is based on insights from semi-structured interviews conducted with a purposive sample of 20 media practitioners and 20 experts on journalism innovation (academics and journalists). We theoretically frame these changes in the crisis innovation literature, and we also discuss the theoretical and practical implications of the COVID-19-inspired innovations based on its impact on routines, work organisation and professional culture. These changes are also framed upon the literature on journalism innovation as a process that brings new value to customers and organisations.

This study deals with the Spanish market. Several factors make Spain a relevant object of study. Its current media system underwent a severe economic crisis between 2008 and 2015 and more than 12,000 jobs were destroyed in this period. Nevertheless, this situation also encouraged the creation of over 500 media start-ups and the implementation of innovations. In this context, legacy media (El País, El Mundo, etc.) were confronted with the emergence of digital-only news outlets such as El Confidencial, eldiario.es and El Español, which to a certain extent met several unsatisfied demands from the readers (Mancinas, Moreno-Cabezudo, and Ruiz-Alba 2019). Both legacy media and new digital players introduced business models based on subscriptions or, as in the case of eldiario.es, on readers' membership. Since 2016, Spain has also become a reference on an international scale for its fact-checking start-ups like Maldita or Newtral. A second generation of fact-checkers includes EFE Verifica, RTVE's fact-checking unit, and Verificat. During the pandemic, the country faced major health constraints from the outset, enforcing lockdown and forcing media staff to change their work routines.

## Journalism Innovation During Crisis Situations

Journalism innovation usually brings value to the news organisations and its users (García-Avilés et al. 2018a) and could contribute to the improvement of people's lives, avoiding technological determinism and a focus on the "shiny new things" (Küng 2017). The growing interest in innovation has also raised misgivings among some scholars, who call for more reflection on the nature of change and indiscriminate technological adoption (Peters and Carlson 2019).

According to Pavlik (2013, 183), journalism innovation can be understood as "the process of taking new approaches to media practices and forms while maintaining a commitment to quality and high ethical standards." Innovating in journalism has implications that go beyond mere technological novelty or products that were innovative in the past but no longer provide new layers of value. As Dogruel points out (2013), inventions or changes must have an additional economic or social impact to be considered innovation. Thus, journalism innovation is composed of different factors. Steensen (2009) argues that these are editorial autonomy, professional culture, the role of management, the relevance of technology, and the input of individual innovators.

The literature about news innovation suggests that it is a means for organisations to improve work methods, audience engagement and organisation structures to create value (Belair-Gagnon and Steinke 2020). Innovation might help news organisations to achieve their own sustainability and develop their public service function, trying to improve people's lives through new services and solutions (Bruns 2014). Newsrooms have incorporated technologies to improve organisational processes (Kosterich and Weber 2019) and editorial collaborative practices (Carson and Farhall 2018), increasing their creative work (Malmelin and Virta 2016). Organisational integration fosters coordination and cooperation among news professionals (Westlund, Krumsvik, and Lewis 2020); and technological tools allow dispersed journalistic teams to implement innovative projects (Koivula, Villi, and Sivunen 2020).

Although journalists are often reluctant to change because of their own professional culture (Ryfe 2009), managers can play a proactive role (Valero-Pastor, García-Avilés, and Carvajal 2021) and contribute to newsroom innovation (García-Avilés, Carvajal-Prieto, and Arias-Robles 2018b), even in crisis situations (Olsson 2009). For example, although digital native media have grown in Spain since the mid-1990s, their maximum growth was during the worst years of the economic recession, between 2008 and 2014 (Negredo et al. 2020). These authors found that during this period a pattern of creative destruction was followed. Therefore, when certain business models and strategies fail, entrepreneurs experiment with new formulas that target all areas of innovation, from production to distribution, marketing, and organisation, in line with the process described in Schumpeter's theory (1942).

Moreover, Perreault and Perreault (2021) argue that studying communication processes necessarily requires an understanding of the environment in which information is produced. In other words, in crisis contexts, such as certain natural disasters or, more recently, pandemics, "journalists exist as a part of an ecology in which journalism influences and is influenced by the environment" (977). According to the authors, this also applies to new journalistic practices (the examples given are data journalism, social networks, predictive journalism), associated with journalism innovation, which can challenge traditional journalists with few resources in these circumstances.

This study explores how and by what means news media organisations are responding to the COVID-19 crisis. Most media outlets worldwide were already suffering from an ongoing business model crisis, which has decimated their advertising market and reduced the attention from audiences (Casero-Ripollés and Izquierdo-Castillo 2013). Given their current economic and financial situation, media organisations were specifically vulnerable to changes in market fluctuations and decreasing consumer demand and spending (Picard 2016).

There is no clear path for the study of crisis innovation, and it has not been a specific object in the media field, but it has been constantly mentioned in the context of studies on innovation. Journalism has been in a state of flux since the internet popularisation (Spyridou et al. 2013). For this reason, the crisis background is not a new phenomenon to the study of media organisations (Thurman et al. 2019). The relationship between innovation and crises is at the root of the seminal studies of Schumpeter (1942), who in his essay on Creative Destruction formulates the idea that the capitalist economy generates a process of constant renewal driven by innovators. External factors, financial fluctuations, regulation, and global crises are mechanisms that the economic cycle of capitalist's

societies takes advantage of to renew itself. Also, Schumpeter's (1942) dynamic competition theory and the role of disruptive innovations are constantly addressed in media innovation studies.

Crisis innovation has been seen as part of the crisis management framework in the field of economics. An important topic in this research field is the origin of innovation when harmful and unexpected events occur beyond conventional economic dynamics (Ardito, Coccia, and Messeni 2021). In this regard, Durugbo et al. (2021) classify the research on crisis-driven innovations into three different perspectives: persistence, resilience, and convergence. The innovation persistence prism stresses the organisational need to seek and leverage economic opportunities that emerge within crisis situations to gain competitive advantage. On the contrary, innovation resilience points at the willingness to achieve institutional stability and agility for accommodating disruptions, while innovation convergence deals with interorganizational alliances that aim to facilitate capability, talent, and knowledge flow.

This study addresses how COVID-19 has generated a favourable context for the implementation of innovation, despite the traditional resistance of journalistic practitioners to innovate (Raetzsch 2014). Since many media firms are on the edge of survival, the effective management of crises is critical for their sustainability (Bartsch et al. 2020). Having a R&D department is a *sine qua non* condition for news organisations to survive in times of crisis, when occupying specific niches depends increasingly on offering innovative products and processes (Machado and Teixeira 2016, 110).

A number of factors that foster innovation are related to organisational characteristics of the newsroom (its physical and hierarchical structure and technological infrastructure), the available human resources (job profiles, level of multi-skilling among the workforce, salary, and reward systems), the organisation of labour within the newsroom (allocation of time and resources, work routines and workflows) and the professional attitudes toward newsroom innovations (Paulussen, Geens, and Vandenbrande 2011).

A study by Appelgren (2022) shows that the mature level of technological adoption among Swedish media organisations and the rapid change in terms of implementing technology and seeing innovation as an organisational strength might have been beneficial in coping with the COVID-19 crisis. In journalism studies, "innovation has often been used as a synonym for a legitimate solution to changes in business philosophies, editorial strategy, and journalistic identity" (Appelgren 2022, 723). Coordination and cooperation among departments was found to be critical for innovation in news organisations during the pandemic (García-Avilés 2021), yet little attention has been paid to innovation strategies during disruptive crises such as this one.

The literature distinguishes different areas of innovation, such as product and process innovation; the latter includes internal organisation and work practices that provide media the ability to innovate in commercialisation as an element of their business model (Bleyen et al. 2014; Storsul and Krumsvik 2013). Likewise, the media's capability to react to the crisis caused by the pandemic demonstrates the existence of a large degree of flexibility to face unexpected events, because innovation is about change (Küng 2013) and when change takes place in a crisis context, it can be both a destructive and creative force for innovation (Archibugi, Filippetti, and Frenz 2013).

Teleworking would be considered as a possible innovation in internal organisation. During the pandemic, media professionals were forced to undertake a transformation

from one day to the next, moving the newsroom to their own homes. This change relied on technologies that allowed contact with the teams, to hold meetings, follow up on tasks and coordinate work, showing that technology and innovation are inextricably linked (Küng 2013). Since early 2021, media outlets have been considering whether the hybrid work systems combining home and the office are the most appropriate option (Cherubini, Newman, and Nielsen 2021).

Several studies published before the pandemic already pointed out the advantages and disadvantages of teleworking. In addition to the obvious benefits in terms of increasing autonomy in managing your own work (Allen, Golden, and Shockley 2015), teleworking has been found to be beneficial by limiting interruptions (Bloom et al. 2015). But working from home also limits the opportunities for face-to-face interaction and may reduce the ability to learn through informal interaction with co-workers (Allen, Golden, and Shockley 2015). In a study of Belgian journalists during COVID-19, many reported experiencing social isolation (Libert, Le Cam, and Domingo 2021). The flexibility associated with teleworking can also cause frustration due to difficulty dividing time between work and family. Another study focused on the effects of the pandemic (Henderson, Raheja, and Crowston 2022) found that staff could produce the news remotely, but there were concerns about certain aspects of content quality. What undoubtedly helps remote work is the software that enables communication and collaboration in virtual spaces (Bunce, Wright, and Scott 2018).

We theoretically frame this research as a crisis innovation opportunity as the news industry is undergoing a process of transformation that can stimulate innovations and accelerate changes in journalist culture. Based on previous studies on journalism innovation (García-Avilés et al. 2018a; García-Avilés, Carvajal-Prieto, and Arias-Robles 2018b), this paper's objective is to analyse the transformations in the Spanish media industry during the pandemic. The research questions are:

RQ1. How has COVID-19 fostered innovation in work organisation in the Spanish newsrooms?

RQ2. What other innovations were launched by the Spanish media during the pandemic?

## Methodology

The research methodology is based on semi-structured interviews with a purposive sample of 40 media workers and experts, conducted during three different time frames. The informants were recruited on the basis that they were professionals working in national or regional news media during the pandemic ( $n = 20$ ) and media experts specialised on journalism innovation ( $n = 20$ ). First, semi-structured interviews ( $n = 12$ ) with reporters and managers of Spanish media were carried out in May-September 2020, focused on newsroom practices during the first months of the pandemic. Further semi-structured interviews ( $n = 8$ ) were conducted with journalists in February-April 2021, to get additional information about the changes introduced in the news outlets because of COVID-19. These informants were asked the same questions in both rounds of interviews. Another series of semi-structured interviews ( $n = 20$ ) with academics, media experts, news practitioners and representatives of media associations, was carried out during January-April 2021, focused on the innovations implemented by media organisations during the pandemic, with a different set of questions. This last

set of interviews was designed with the aim of collecting the most relevant journalistic innovations implemented in the last decade (2010-2020), as part of a broader study. Those journalistic innovations mentioned at least once by any of the 20 experts were included in the sample and then were analysed using the interviewees' inputs as well as secondary data.

Semi-structured interviews are a useful method to explore institutional change and professional strategy, contributing to the further understanding of strategic processes (Charmaz and Belgrave 2012). In choosing the sample of the interviewees, criteria both of geographic diversity and gender parity were applied. The ages of interview participants ranged from 27 to 59 years. At the beginning of the interview, each interviewee gave verbal consent about the use and storage of data for research purposes in accordance with legal and ethical requirements. They were informed that their data would be collected over the course of a structured interview and further processed in the form of transcripts and translations, interview notes and various formats of analysis. Interviewees were granted anonymity and were assured that no information provided would be published that could be traced back to them, thus ensuring confidentiality and that their data would be used responsibly.<sup>1</sup> The interviews lasted 45 min on average and were conducted by videoconference. They were recorded, transcribed, and translated for its analysis by three members of the research team.

The guide of the two series of interviews with news professionals covered the following issues: processes implemented in the newsroom during the pandemic, adaptation to telework, evolution of journalistic practices, the role of management, changes in the processes of gathering, production, distribution, etc., launching of new products or services, innovations related to the pandemic, evaluation of the experience in virtual newsrooms, and the consequences of COVID-19 for media companies.

Interview transcripts were analysed by three coders using Tracy's (2013) iterative approach in which the analysis combines readings of the data and reference to existing models, explanations, and theories. The coders divided the transcripts into units and marked up the areas with similar or different meanings around key topics, so that the underlying interpretation of the text was revealed. The thematic coding allowed the emergence of key contributions across the interviews to be identified, compared, and analysed. Many significant statements by the interviewees were highlighted to illuminate the research questions and show consistent results.

## Results

We present the innovations mentioned by the interviewees grouped into two different sections according to their area of influence: those that revolve around organisation and work practices, and those that focus on products, distribution, and marketing.

### *Innovations in Work Organisation and News Practices*

For media outlets in Spain, covering a health pandemic during a state of national alarm and home confinement was a huge challenge (García-Avilés 2021). Since its implementation on 14 March 2020, newsrooms adopted widespread teleworking within hours and editors went to great lengths to coordinate teams and manage the various tasks.



Newsrooms designed communication systems and adapted workflows, increasing the use of Zoom, Teams, or Meet, and other tools such as WhatsApp, Slack and Telegram to coordinate. According to the head of the strategy at a digital-only outlet, “the first decision was to centralise all communications in a single channel. The news desk had its own channel to coordinate all the sections, and each team (Technology, Design, etc.) had a specific channel. This was one of the keys to making the workflow work”.

As a result of the months of confinement, the relationship between bosses and employees tended to become closer, less hierarchical, and more collaborative. The continuous contact further strengthened personal bonds and relationships. “We saw each other through our cameras, we shared documents on virtual desks, we received instructions through private chats,” said an editor at a national newspaper. Another journalist highlighted that “this human contact is really important, something that touches you, that makes a difference in these tough situations.”

Each outlet created its own guidelines and protocols to facilitate the work. The head of audience development at a regional newspaper group explained that the protocols “included basic rules; for example, if you are going to call someone, let him or her know because maybe the other person doesn’t want to be interrupted or to avoid being called by several people at the same time.” In a few newsrooms teleworking was already common practice. For example, in a regional newspaper, 65% of its 260 journalists worked in local delegations and were used to teleworking before the pandemic.

When adapting to teleworking and the new communication protocols, managers often tried to seek continuity with what was done in the physical newsroom. The head of innovation at a digital-only player explained that they wanted to maintain most of their work as it was done before the lockdown “because when you wonder what will happen with something new, if you don’t have an answer, chaos begins. Maintaining the routine as far as possible makes everything go more smoothly.”

The experience accumulated in the virtual newsrooms during teleworking provided valuable learning. Since September 2020, most news outlets have introduced a mixed system that combines on-site work with teleworking on certain days. Some interviewees argued that the concept of the office and teleworking will change forever, increasing flexibility and collaboration. According to the head of design of a newspaper, “physical newsrooms are mortally wounded because they are expensive and unsustainable. The classic model is going to disappear.” In the view of one executive, teleworking could make it easier to retain talent and to incorporate new professional profiles.

There was a general consensus that teleworking allows to work more efficiently. The workflow has become more flexible and productive in many cases; internal discussion processes and meetings have been streamlined. “Now, when we have set certain limits, teleworking is very good because at home you are concentrated, nobody disturbs you. We have improved the way we telework. In a newsroom there is a lot of noise, interruptions, chats, and meetings”, said an editor of a digital-only outlet. The data unit coordinator at a national newspaper stated: “I work much better because we have far fewer interruptions, fewer useless meetings; now we get straight to the point.”

Most professionals interviewed agreed that teleworking is useful sometimes, but it cannot totally replace face-to-face work. Creativity comes from professionals “rubbing

shoulders” and exchanging ideas. Moreover, teleworking brings out the best and the worst in teams. If a team is not sufficiently united, problems multiply; if it is united, a collaborative and creative atmosphere prevails. According to the head of digital strategy at a fact-checker, “it is important that each team learns to work under pressure and has good communication with the rest. That’s why I appreciate the fact that we were able to organise ourselves without major problems, without anything exploding; the frictions that did occur could be solved.”

The increase in working hours made it easier for productivity to be maintained during the pandemic, although stress and workload usually had a negative impact on journalists’ wellbeing, according to some interviewees. In July 2020, a digital native conducted a survey among his workers to find out about the conditions in which they teleworked. Almost everyone opted for a mixed model. Journalists showed interest in returning to the newsroom but appreciated the positive aspects of teleworking.

On a personal level, stress influenced many journalists. Most interviewees believed that it is more difficult to disconnect and finish the workday as teleworking has blurred the lines between personal and working life. Now breaks at work are not held as often as before, nor there are colleagues nearby with whom to talk. Telework allowed journalists more flexibility and sometimes to finish earlier or move on to another task, but this rarely translated into more time off. It was necessary to look for moments to disconnect and find spaces to relieve the tension. At a regional newspaper, they organised a coffee get-together in Slack so that people could tell managers how they were doing. “It was a relaxed moment in the afternoon and people got hooked to disconnecting and got away from the routine. We talked about many things, but not about work. For us it was an escape valve,” emphasised its head of digital. The CEO of a digital-only outlet considered that the pandemic improved the organisational culture in the newsroom. She argued that the new situation had a positive impact in the way journalists shared ideas and workflows.

The creative environment of the newsroom is irreplaceable, but journalists learned how far they can go despite the adverse conditions. A recurring question was: what do you lose by not being physically in the newsroom? Many things were missed since journalistic work requires seeing the others, exchanging impressions, meeting in a relaxed way, or to interact face to face. According to some, teleworking had negative effects on internal communication, because journalists tend to talk more with section colleagues and the richness of dealing with professionals from other sections was lost. For example, the breaking news section in a digital-only outlet introduced a permanent call in Google Meet that replaced the dialogue in the newsroom. A news manager stated: “Not everything can be spoken on Telegram. Sometimes, when there are important issues, you must call”.

An independent consultant highlighted that the implementation of teleworking in a large newsroom would be a 5-year plan and it would probably demand a lot of technology and investment, but the pandemic accelerated this process. This crisis has been a driver of innovation because it helped to set new standards about how to manage teams, how to produce public service journalism, and how to provide breaking news and analysis. Many day-to-day management processes were a valuable learning process, according to some interviewees.

## ***Innovations in Products, Distribution, and Marketing***

### ***Public Service Journalism and the Fight Against Disinformation***

The pandemic highlighted the value of quality news services. Useful and practical information became more relevant, as it had a direct impact on audiences' lives. Newsrooms that strived to listen to their readers increased their reach. According to the head of social media at a regional newspaper, journalists' active listening became essential: "Often the needs of the newspaper or what we journalists considered important were other things. That has changed. We made content designed to respond to what people needed at any given moment, very focused on readers' needs."

During the confinement, most resources were devoted to covering the health emergency and its consequences. One part of the journalistic muscle reported on the day-to-day running of the crisis, while the other part covered the issues on its own agenda. Reporters specialised in politics, economics, culture, or sports joined health news coverage. Several editors valued the experience of opening to other sections. "Journalists tend to be a bit anchored in their own areas, but during the COVID-19 peaks, we have seen that we can adapt to any topic and work on anything that current affairs require", explained a reporter.

Some professionals agreed that the relationship with readers changed for the better, thanks to an attitude of active listening, which encouraged participation and the production of service-oriented content. One newspaper manager illustrated this: "There was a lot of initiative in social media so that readers could ask us what they could do in their de-escalation phase, how they could deal with an anxiety crisis, or how they could get help. There were also solidarity initiatives, such as letters to patients in hospitals, thank-you messages to associations, and readers who sent books or food." "If you give readers useful tools for their daily lives, you are helping them to be better citizens; when we ask them to help us debunk hoaxes or to collaborate financially, the response was magnificent" argued a manager from a fact-checker. She highlighted the increase in the number of subscribers to their fact-checking service and their proactive attitude: "They are our sources: many experts (biologists, epidemiologists ...) from across the scientific spectrum in Spain and Latin America, as well as specialists in legislation, taxation, etc., collaborated."

Fact-checkers provided a valuable public service by debunking hoaxes. "Verification itself became essential during the pandemic," pointed out one expert. Journalists were confronted with growing disinformation: "It was something we had never experienced before and we didn't know what pattern it followed, so we had to verify everything on the spot and there were many messages that you didn't know were true, such as hoaxes about the routes of infection or the origin of the virus," explained a regional newspaper editor. The audience demanded content related to COVID-19, the performance of the virus, how treatments worked, and fact-checking of scientific and health-related hoaxes.

One fact-checker went from receiving an average of 450 queries per month via WhatsApp to 10,000. "We answered thousands of queries. Many people started to get to know us through COVID-19", said the head of digital strategy. "We had to review the processes, incorporate tools, change the servers and renew the system to be able to respond to all the requests we received. We automated all the processes, which were previously manual so that journalists could spend more time verifying and researching", she added.

Another fact-checker was also overwhelmed by the queries from the community, both on a human and technical level. “Users consulted us by WhatsApp and there was a moment when the number of queries shot up and the system collapsed at times”, explained the community manager. “For our Science team, which had been operating since June 2018 with its own sources and the collaboration of the community, it was easy to adapt to what the audience was asking for.”

The content that connected most with audiences during the pandemic was that which provided useful data, context and avoided sensationalism. The work of monitoring the performance of governments during COVID-19 also entailed the ability to analyse and discriminate relevant data and to detect propaganda and manipulation. According to one of the interviewees, “COVID-19 has drawn the line between those media committed to their audience, acquired and consolidated over time, which translates into a model of service journalism, and those that only have a purely transactional relationship with their readers.”

### *Data Journalism and Beyond*

The strategic importance of some areas, such as data journalism teams, also generated quality information. The creation of graphics to explain the evolution of the pandemic helped to understand the data. Most of the media updated pandemic data on their webs' frontpages and published content with graphics and maps. “They have succeeded in having a very rapid reaction, being able to develop products in a very agile and fast way, which is also very useful and has set the standard for many news organisations in Spain in terms of how they have visualised COVID-19 data”, said a regional newspaper manager.

The head of a data team at a legacy media argued that “there is a gap between the media that have a data unit and the rest. Data analysis, how to tell and interpret it, has become a key element. However, in the more traditional sections [of the newspaper] no one works with data, and we were not able to provide all the support we would have liked.” Something similar happened at one digital-only outlet where the pandemic has increased the production of data journalism and visualisations. They made an important deployment in this area because it was “the easiest way to see a lot of things at the same time, and with news from all the places because we have many local editions,” said its CEO.

Through interactive and explanatory formats, journalists used infographic tools to explain situations that were complicated and evolving. Besides the conventional charts and maps, more complex infographics and visualisations helped to explain aspects such as the transmission of the virus in closed spaces and achieved a huge social impact. Data journalism contributed to reinforcing COVID-19 coverage with its ability to sequence specific events, according to some experts. It is important because COVID-19 forced some outlets to hire data journalists. “These contents began to be consumed in a massive way. Data journalism has been produced in many countries and, in some news outlets, it has reached more users than anything else during this year,” said a manager of a fact-checker. However, data journalism also had some negative effects, mainly due to the constant bombardment of figures about a pandemic that left thousands infected, hospitalised, and deceased. “In the end, it generates a certain obscurity. And there is a need for testimonies and explanations that reveal the dimension of the data”, argued an academic.

The health crisis also led to other innovations in news products. Fact-checker Newtral launched a web project called Covidpedia that explained everything about Coronavirus in a very visual way. This was just an example of the revamping of science journalism. “The pandemic showed that science journalists are the most suitable to talk to scientists, to interpret key facts about the pandemic in a useful way. Literally to prevent an infection that can kill us”, added a media expert.

### *Distribution Channels*

COVID-19 promoted innovations related to the distribution of news products. According to the interviewees, during information overabundance, the rise of newsletters with a careful selection of the data generated around the pandemic was a product designed to summarise news that fitted in very well with users’ demands. “The format itself is not a novelty, but we are now living in a second golden age of newsletters. The key is presenting the content in a very schematic way, but at the same time deeply, with very good content curation and an excellent selection of topics”, said an expert. Newsletters are by no means something new as they have existed since the early nineties. But the pandemic newsletters seem to have hit a nerve as users turned to them to stay on top of recent developments, receiving a daily summary of the most important events and data. It might be the case that people turned increasingly to newsletters from established news brands to be sure to receive accurate information, but the whole range of motivations is still unclear.

Twitch for the dissemination of news was also highlighted as an innovation. Some professionals experimented with this platform, reaching higher interaction with younger users. “When you integrate yourself into the collective discourse that Twitch implies, you are generating a kind of interaction that is completely new to the point that the chat becomes part of the broadcast itself. And the quality of the community around the journalist determines the quality of the Twitch broadcast”, explained a media expert.

In summary, it can be considered that the increase in newsletters with a careful selection of information about the pandemic responded to the needs of the moment, and it was an incremental innovation by involving small changes in products or processes which generated greater value.

### *New Sources of Revenue and Marketing*

The pandemic also accelerated the search for new business models both in legacy and new media. The decrease in the sale of printed newspapers, due to changes in consumption habits, and the downfall of advertising investment accelerated changes that were already taking place in the industry. Most legacy media and digital pure players implemented various payment models to try to retain the increasing number of users. Some brought forward the launches of these new models to coincide with those of their competitors, as admitted by the manager of a digital-only outlet. Others took advantage of the situation to ask subscribers to contribute on a voluntary basis, applying changes to the membership model introduced by eldiario.es in 2012, which underwent an incremental improvement during the crisis.

Therefore, many readers contributed financially to become partners or members and thus ensured the sustainability of the media with which they identify, while the

content remains open on the web. An expert considered that, through these strategies, news organisations have multiplied the number of subscribers.

Other revenue streams were also explored. The manager of a native digital media company mentioned the rise of affiliation. Because people were confined at home, they consumed more products from online shops and sales soared. Along the same lines, the organisation of digital events was highlighted. Media outlets had to re-adapt the events they traditionally carried out, for example, in hotels or convention centres. The economic results of online events are not the same as the conventional ones, but one expert pointed out that they adapted quite well: “The pandemic helped to overcome the reluctance to pay for content (...) I think this cultural change has been very positive. All of us in the media who have been able to foresee this have taken advantage of the situation”.

## Discussion

The pandemic accelerated the media’s effort to change in order to survive in a highly complex context. The health situation forced companies and professionals to sharpen their wits to cope with the difficulties in managing the work and, at the same time, to meet the demands of a society in need of quality journalism (Newman et al. 2021). These circumstances have speeded up processes that, under normal circumstances, would have taken months or years, but had to be adopted in days or weeks (Olsen, Pickard, and Westlund 2020). In many cases, these changes were already underway or were dormant, particularly because of resistance in legacy newsrooms (Ferrucci and Perreault 2021). Some of these transformations are here to stay, others will be diluted or only partially exploited, and others will disappear. In any case, this research underlines the adaptive capacity of the news media industry in Spain, as reflected in previous studies (García-Avilés et al. 2018a; García-Avilés, Carvajal-Prieto, and Arias-Robles 2018b).

Our results show how the media faced abrupt change during a health crisis. During the pandemic, Spanish newsrooms quickly adopted teleworking practices, incorporating some resources, and implementing online communication processes to face disruption. Many day-to-day management processes were a valuable learning experience. This crisis has been a driver of innovation because it helped to set new standards about how to manage teams, how to produce public service journalism, and how to provide breaking news and analysis.

Digital adoption was not easy for most legacy media, especially in terms of newsroom culture, because it affected traditional production practices (Pavlik 2021). However, the focus on audience and public interest issues during the health crisis motivated the adoption of innovative practices that might otherwise still have been seen as commercially driven gimmicks (Creech and Nadler 2018). To a certain extent, the pandemic helped to neutralise scepticism towards innovation among some professionals by presenting a one-way street, such as teleworking, the commitment to data journalism or the need to use more explanatory formats (García-Avilés 2021). In fact, Spanish news organisations have transcended the aim of resilience while innovating in a crisis scenario, as some have harnessed the pandemic to gain competitive advantage. Most of the structural and cultural transformations were designed to last longer and thus contributed to the sustainability of news outlets in the long-term, which fits with the persistence mission coined by Durugbo et al. (2021).

According to a report from the Reuters Institute for the Study of Journalism, remote working practices have made news organisations more efficient (55% of respondents), but managers are worried about the impact on creativity and on teamwork (Cherubini, Newman, and Nielsen 2020). In this sense, the implementation of online collaborative software such as Slack has improved coordination and work between the teams. We see a relevant difference between what the pre-pandemic literature says about teleworking and today's experiences. In line with previous studies (Bunce, Wright, and Scott 2018), our findings reveal that remote coordination has improved newsroom workflows because of the implementation of online tools.

Nevertheless, 77% of respondents in the Report feel that teleworking made it harder to build and maintain relationships, with many raising concerns about how to communicate effectively and about the mental health of employees (Cherubini, Newman, and Nielsen 2020). Our findings support these results from the Report. Spanish journalists are concerned about the impact on creativity as longer hours and the increasing complexity of production have added pressures on staff. Many interviewees argued that teleworking makes relationships more difficult and several of them are worried about its impact on the mental health of employees. Results show that newsroom practices have evolved through telework, collaboration and other factors, and that digital transformation has been accelerated at many legacy media in Spain (RQ1). The reconfiguration of physical space and the reorganisation of the newsroom is one of the main consequences of the pandemic.

The interviewees highlighted face-to-face relationships with colleagues as most valuable. Moreover, sharing the same space and tasks reinforces the feeling of belonging. Teleworking tends to be a more individualistic activity. The lack of face-to-face meetings allows for some ideas to be not verbalised, communication flows less fluently, and could have a negative input on creativity. However, new opportunities for improving processes and workflows arise. Our results are in line with a study of Swedish media leadership that found that in virtual newsrooms during the pandemic, management was open to introducing new ideas into the organisation and thus using its leadership to put together teams of different competencies to promote innovation (Appelgren 2022). The experience accumulated in the Spanish newsrooms over the first year of the pandemic provided valuable learning which translated into more flexible news practices, new communication protocols, and greater sensitivity to the audience's needs (RQ1). Hybrid newsrooms, with some staff in the office and some working from home, are likely to become an integral part of the media landscape.

According to the experts, most innovations were developed in the areas of product (such as data visualisations about COVID-19); distribution (newsletters, podcasts, news streaming), and commercialisation (RQ2). Subscriptions and membership models were launched or reinforced during the pandemic; eldiario.es reached a record number of 60.000 members, and many media companies implemented online events and experimented with new sources of income. The effect of COVID-19 resulted in the increase of fact-checking and the implementation of the subscription model, brought forward by the advertising crisis. The pandemic contributed to the rise and relevance of data journalism, due to the generation of huge amounts of data (about infections, deaths, vaccinations, etc.) and a situation of uncertainty in which audiences preferred to consume hard news to make informed decisions.

Several journalistic innovations implemented by the Spanish media during the pandemic had a significant impact at a social level, because they facilitated access to information, helped to sustain public interest journalism, or opened new journalistic approaches, such as data visualisation and fact-checking, increasing transparency. Journalists are verifying breaking news more intensively and fact-checkers are playing an important role in fighting disinformation. In many outlets, the science section was reinforced, and their professionals now work in a coordinated way with other areas such as data visualisation and design to produce relevant content. According to the experts, to a large extent journalists' work is now more audience-focused, from developing story ideas to providing a response to readers' needs.

This research has certain limitations derived from the purposive sample of 40 experts and journalists selected, which could be expanded and reinforced with greater diversity. The sample is not representative of the media sector so that the views reflected here cannot be extrapolated to the whole of the Spanish media system. The results also reflect a limited period (from May 2020 to April 2021). Furthermore, these findings could be enriched using other methodologies such as newsroom ethnography and online surveys, to explore more in depth the professionals' perceptions about their work conditions and other issues. Nevertheless, the study provides relevant information that can contribute to the knowledge about the impact of the pandemic on the Spanish media.

According to Storsul and Krumsvik (2013, 18), most media innovations are incremental because they involve small changes in products or processes that "do not challenge the economy or the logic of the process" but they do add value by trying to solve the new needs identified. In fact, it could be concluded that the Spanish media implemented only incremental innovations -not disruptive- during this period, but the circumstances allowed to significantly accelerate the changes that already were under way in content production, newsroom organisation, distribution, and commercialisation, particularly at the legacy media. Besides, the situation of uncertainty generated by the COVID-19 crisis calls for a clear strategy in media companies that puts to test the relevance and viability of journalism.

## Note

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