Article

Examining the Most Relevant Journalism Innovations: A Comparative Analysis of Five European Countries from 2010 to 2020

Klaus Meier [1,*], Jonas Schützeneder [2], José Alberto García Avilés [3], José María Valero-Pastor [3], Andy Kaltenbrunner [4,5], Renée Lugschitz [4,5], Colin Porlezza [6], Giulia Ferri [6], Vinzenz Wyss [7] and Mirco Saner [7]

[1] School of Journalism, Catholic University Eichstaett-Ingolstadt, 80572 Eichstaett, Germany
[2] Institute of Journalism, Hochschule Magdeburg-Stendal, 39114 Magdeburg, Germany
[3] Department of Social Sciences, Miguel Hernández University, 03202 Elche, Spain
[4] Medienhaus Wien, 1160 Wien, Austria
[5] CMC-Institute, Austrian Academy of Sciences/University of Klagenfurt, 1010 Wien, Austria
[6] Institute of Media and Journalism, Università della Svizzera Italiana, 6900 Lugano, Switzerland
[7] IAM Institute of Applied Media Studies, ZHAW Zurich University of Applied Sciences, 8400 Winterthur, Switzerland
[*] Correspondence: klaus.meier@ku.de

Abstract: Research on journalism innovation has become increasingly relevant for science and practice. The literature shows a great variety of innovations in a wide range of media fields. However, the question of what the most important innovations in different media systems are has not been addressed. This article attempts to fill this research gap by providing a theoretical framework that deals with the function of journalism in society as well as with the multifaceted meaning of innovation in a time of constant media change. We identify and analyze the most important journalistic innovations in Austria, Germany, Spain, Switzerland, and the United Kingdom in the last decade. Interviews with 100 experts reveal diverse innovation efforts. From a total of around 1000 mentions, 50 different types of innovations could be identified; from them, 34 made it into the selection of the 20 most relevant innovations in the countries. Different innovations were found to be of varying importance for journalism development in each country. However, some innovations were ranked high everywhere including data journalism, collaborative and investigative networks, audience participation, journalism in social media and the establishment of paywalls. Further comparative analysis of the media policy frameworks, journalism cultures and contexts for the contribution of journalism to democracy is required.

Keywords: innovation; journalism; change; data journalism; audience participation; media innovation; investigative journalism; social media

1. Introduction: Journalism's Blurring Boundaries and Its Role in Society

The concept of journalism has always been difficult to pin down. Finding a definition of "journalism" has become more complicated in the digital age because its boundaries are blurring (Carlson and Lewis 2015; Loosen 2015). Nevertheless, the central role of journalism in pluralistic, open societies remains oriented toward independently surveying matters of public importance as well as to interpret events within a larger social context. Since societal subsystems, such as politics, economics, culture, and sports, tend to drift apart, journalism is a vital binding force to interrelate, realign, and synchronize these subsystems and to provide them with a common repertoire of social topics and issues (Meier 2018b; Urban and Schweiger 2014).

Drawing on the literature (Malik and Shapiro 2017; Meier 2018b; Kaltenbrunner et al. 2019), in this study journalism is defined as *the regular process of producing and distributing information for the purpose of providing an orientation for the public and transparency for the*

society at large, by an organization that commits itself to sustaining democracy and to journalistic principles such as independence, non-partisanship, topicality, relevance, correctness, and general comprehensibility in order to guarantee this claim.

Journalism therefore plays an active role in generating a common public sphere (Habermas 2006) and thus contributes to ensuring that the basic values of democratic societies, namely freedom, justice, equality, and solidarity are safeguarded (McQuail 1992), fulfilling at least three core tasks (Christians et al. 2009; Meier 2018b, 15ff.): providing information, critical evaluation and monitoring ("watchdog role"), and participation. Accordingly, several fundamental values emerge on which the quality of news is based (Kovach and Rosenstiel 2014; Scheuer 2008, pp. 44–49): truth/facticity, relevance/context, and independence. These values are mutually interlinked in the current discourse framing of the term "objectivity". McNair (2017, p. 1331) notes that "the journalistic search for credibility of sources, and scrutiny of what those sources say, without fear or favour, has never been more important to the health of liberal democracy". In a "post-factual era" it must also be accompanied by norms such as transparency of journalistic products and processes (Meier 2009), and appropriate tools that strengthen the accountability of newsrooms (Fengler et al. 2013).

The notion of blurring boundaries has been used for some years now to frame the evolution of journalism (Carlson and Lewis 2015; Loosen 2015; Scott et al. 2019). Journalism as a profession, as a commercial endeavor, and as a social activity has long been evolving, shaped by many transformations. News organizations are confronting the challenges posed by digitalization, different news consumption habits and the use of social media, greater access to data, and experimentation with new distribution channels. In the state of flux in which journalism finds itself (Spyridou et al. 2013), under scrutiny, with progressive drops in citizens' trust in the media (Newman et al. 2021), observing the evolution of journalism's boundaries helps to understand the phenomena and to anticipate challenges and opportunities. As Loosen (2015, p. 79) argues, "we (as society, journalists, audience members, journalism researchers) seem to be in the middle of a process of figuring out what we regard as 'journalism'—and its function for society".

Indeed, although journalism may be in a moment of crisis (Pickard 2020), the interest in its evolution and, specifically, the concern about what happens at its boundaries indicates that it is still a relevant activity (Scott et al. 2019). Such boundaries are not static, and their evolution is affected by the multiple perspectives that shape journalism, so it is relevant to consider how the most recent changes and innovations influence the (re)definition of those boundaries (Spyridou et al. 2013).

In a three-year, international research project, we are investigating the impact of innovation on journalism, and the influence of the socio-political framework. The media system, media policy, and journalistic culture are considered preconditions and prerequisites for media and journalism innovation. This descriptive study presented here shows the results of the first phase of the project, in which we aimed to identify the most important innovations in each of the five countries and to determine which approaches are relevant to the different media markets and systems in the process and which are significant in individual countries. In the next phase of the project, which is still ongoing, the innovations are examined in depth on the basis of case studies; the third final phase will analyze the impact of the framework conditions in different media systems, building on the findings of the first two phases.

We included Germany, Austria, Switzerland, Spain, and the UK in order to compare representatives of the three different media systems in West European and North American democracies as identified by Hallin and Mancini (2004). According to Hallin and Mancini (2004), Germany, Austria, and Switzerland (DACH)[1] media correspond to a "democratic corporatist model" with strong public service media and a traditionally wide reach of newspapers. The DACH journalism culture is also well aligned. Many journalists in these countries have similar self-perceptions, they share similar or have the same values, or follow comparable norms (Hanitzsch et al. 2019). The three DACH media markets are also characterized by a high degree of system stability, relatively loyal audiences over a long

time, with legacy media houses under comparatively less pressure to initiate and unleash innovation processes. However, the innovation experience in the DACH media cultures differ considerably from the North Atlantic "liberal model", as found in UK, and from the Mediterranean "bipolarised pluralist model", to which Spain is to be counted, following Hallin and Mancini (2004). In both countries, media innovated much earlier to meet the challenges of the digital era. Legacy media in the UK, for example, pushed for professional online journalism and established integrated newsrooms years before German-language media (Kaltenbrunner and Luef 2017). In Spain, on the other hand, economic crises and large-scale staff cuts led to the founding of numerous digital natives, niche initiatives and start-ups (Salaverría-Aliaga et al. 2018; García-Avilés et al. 2018).

Against this backdrop, a thorough reflection is needed to identify the essence of the 'what', 'who', and 'how' of change in journalism and its implications. Scholars have neglected to examine to what extent media innovation processes and results differ in international markets and their implications for news organizations. There is a research gap on comparative studies about journalism innovation in international systems and markets. As Livingstone (2012, p. 421) argues, "it is no longer plausible to study one phenomenon in one country without asking, at a minimum, whether it is common across the globe or distinctive to that country or part of the world". Thus, the systematic exploration of a complex array of innovations in different media markets might contribute to understanding the complex evolution of journalism and strengthen theoretical frameworks based on the analysis of best practices, lessons learned and transferable knowledge in the field of media innovation.

2. Journalism Innovation as a Strategic Value for Media Organizations and Society

"Innovation" has been a buzzword in public communication for decades. On the one hand, it is a general term used to advertise brands and products. On the other, innovation is also differentiated analytically, regarding products, processes, marketing, and distribution (Schützeneder 2022). There is scientific consensus that innovation has become an "umbrella term" that lacks a functioning systematization or definition that enjoys broad agreement in an interdisciplinary context (Gaubinger 2009, p. 5; Taebi et al. 2014, p. 118; Neubauer 2008, p. 7). In journalism research, methodological, conceptual and systematic analyses of innovation have also received fragmented attention (García-Avilés 2021).

As a starting point, we use the definition of Rogers (2003, 12ff) who sees innovation as an idea, approach, or object that is perceived as new and as an improvement on a previous state. This view connects with Pavlik's (2013, p. 190), who argues that "innovation is key to the viability of the media in the digital era", as it improves services and products, and increases revenue or audience. These dimensions play a key role in journalism innovation, understood as "the introduction of something new that adds value to customers and to the media organization, which reacts to changes in products, processes and services through the use of creative skills that allow a problem or need to be identified and solved" (García-Avilés et al. 2018, p. 27). This approach includes aspects related to strategy, structure, and processes that generate value for the organization, foster creativity, and increase public service (Küng 2015).

The growing demand for innovation has also been received with some reticence, with researchers calling for more reflection on the nature of these changes and the indiscriminate adoption of technological innovations (Creech and Nadler 2018; Peters and Carlson 2019). It is worth remembering that innovation should be aimed at improving people's lives through new services and solutions (Bruns 2014) and should avoid technological determinism or flashes of technical novelty (Küng 2015).

When measuring innovation in the industry, two degrees of impact have been observed: radical and incremental innovations (Christensen 1997). Radical innovations include novelties with far-reaching consequences on the economy and the market through creative destruction (Schumpeter 1943), although they tend to occur less frequently in the field of journalism (Storsul and Krumsvik 2013). Incremental innovations refer to gradual

improvements in which certain components and processes of the firm are modified (Tidd and Bessant 2005). These innovations are found in products and services, automation processes, and improvements in some tools (Nieminen 2019). Storsul and Krumsvik (2013, p. 18) have noted that in journalism most innovations are incremental, because they involve slight changes that "do not challenge the economics or logic of the media market."

Journalistic innovations not only benefit the direct recipients of the journalistic message, but also generate positive externalities, due to the public good nature of journalistic products (Hamilton 2016). Bruns (2014, p. 13) notes that a full understanding of innovation processes in journalism necessarily "requires a holistic perspective of innovations, which seeks to trace the repercussions of innovations across both media and society"; in other words, media innovations are "inextricably interlinked with societal innovations". News organizations ideally pursue a twofold aim: their own economical sustainability and the fulfillment of a social service that ensures the basic values of democratic societies (McQuail 1992)—the implementation of journalism innovations can help achieve both. In addition, some media innovations emerge from the edges of the industry and might provide a relevant social impact (Bruns 2014).

In the face of economic, technological, and communicative issues in the so-called "post-truth age" new formats, coverage patterns, and distribution processes have emerged. Examples of innovations can be seen in the emergence of fact-checking (Graves and Cherubini 2016), "constructive journalism" (Meier 2018a), and "slow journalism" (Le Masurier 2015). Studies have examined innovations related to format (Lopezosa et al. 2021), organizational processes (García-Avilés et al. 2017), and audience engagement (Meier et al. 2018). Journalists and technical experts are collaborating more closely through open-source engagement (Usher 2016), which fosters values regarding transparency, tinkering, iteration, and participation (Lewis and Usher 2013). To adapt to these dynamic transformations, several media organizations have established journalism innovation labs (Hogh-Janovsky and Meier 2021). In addition, collaboration between humans and computers is rapidly becoming an integral part of journalism production, with all its potentials and pitfalls (Schapals and Porlezza 2020). The COVID-19 pandemic has forced newsrooms to re-think their priorities and the way in which they produce news and has accelerated innovation (Hermida and Young 2021).

On the one hand, disruptive media innovation has diminished the privileged position of traditional journalism (García-Avilés et al. 2018), which has also put pressure on news media to invest in position innovation given that they often needed to legitimize or renegotiate their role in society (Francis and Bessant 2005). On the other hand, legacy media have shifted resources to develop multi-platform products and to simultaneously improve news quality (García-Avilés et al. 2017). This shift entails multiple requirements, such as effective communication from management as well as a general upgrade of production processes (Westlund and Krumsvik 2014), a change in culture (Küng 2013), and the implementation of quality management systems (Wyss 2016).

The question about identifying the most relevant media innovations at the international level has not been answered in the literature that has usually concentrated on single case studies. What is lacking, therefore, is a systematic overview, counting, and clustering of many innovations and its comparison in several countries. Based this theoretical framework, which addresses the conceptualization of innovation as well as the role of journalism in society against a background of blurring boundaries in the digital environment, the main research objectives are:

(a)   To establish a reliable analytical index matrix for an international comparison, based on agreed and validated parameters for measuring the degree of journalism innovations in European democracies;

(b)   To identify the most important innovations in five countries with similar (Austria, Germany, and Switzerland) and different media systems (Spain and the United Kingdom).

The research questions (RQ) are:

- RQ 1: How can journalism innovations be distinguished, classified, and measured?

- RQ 2: Which fields of innovation in journalism should be considered the most important in the decade 2010–2020?
- RQ 3: What are the differences and similarities regarding the types of innovations in countries with similar and/or different media systems?

3. Method

To identify and collect the most relevant journalism innovations of the past decade, 20 semi-structured interviews were conducted with experts in each of the five selected countries. Associated with RQ2, each expert was asked to name the ten most important and successful innovations in journalism and media in their respective country for the period 2010–2020 ("*Could you please identify 10 successful[2] journalism innovations that you consider among the most innovative or important in Germany/Switzerland/Austria/Spain/UK, with at least one year since their launching*"). The experts were then asked to justify their selection. Already beforehand, the interviewees had received a brief description of the project and the definition of innovation in journalism applied to this project, as well as the explicit indication that the innovations could relate to product/process, organizational, commercialization/marketing and/or distribution levels. The 100 interviews, which lasted around one hour each, were conducted in the first half of 2021 using digital conference tools (Zoom, Teams, Google Meet) as in situ implementation was not possible during the pandemic.

To ensure a diversity of perspectives, three different categories of experts were defined:

(1) Media professionals including editors-in-chief, publishers, CEOs, CTOs, CIO, (entrepreneurial) journalists, or other media executives. They had to be responsible for or at least involved in the development, deployment, or implementation of innovative initiatives within their field of work.

(2) Scientific experts and journalism innovation experts who follow and assess innovative journalism and media initiatives within their own or other countries. They had to interact with key players and relevant institutions. They also had to be aware of relevant developments within media and journalism and able to appraise current new initiatives.

(3) Innovators who are familiar with media and journalism in their respective countries and yet deal with innovation issues in related fields, such as technology, arts, sales, social affairs, and audience engagement. They could be developers, tech innovators, business angels, marketing experts, or social innovation researchers.

As a guideline, the expert sample from each country was designed as follows: ten media professionals, five scientific experts, and five innovators. In addition, care was taken to ensure that samples had an adequate gender mix, and that different age groups and representatives from different parts of the country or language regions were represented. For this purpose, pools of 30 to 40 possible interview partners were suggested within the individual country teams on the basis of their field experience and knowledge, from which desired candidates and possible substitute candidates were then selected according to the diversity criteria. Furthermore, in the first interviews with experts, we also asked for other experts and included them in the list of possible interviewees. In most cases, the experts were contacted by email, less frequently by telephone to schedule an interview. The experts were asked for their explicit consent for the use of the interview content in the scope of this project and were guaranteed anonymity so that they could not be identified.

The coding work took place either via transcripts or directly from the recorded audio file. A standardized coding sheet was created as a template for all five countries to collect each innovation presented by the experts. Clusters were formed at a national level to determine country-specific characteristics. These clusters were then compared at an international level. While many clusters, such as data journalism, automation or newsletters, were unproblematic in the comparative work, new categories had to be created for incompatible content. For example, in some countries fact checking is more likely to be attributed to start-ups that are completely dedicated to this journalistic task, while elsewhere it is under-

stood as part of the editorial quality management system. Each innovation was assigned to only one cluster.

To identify the most important fields of innovation, clusters were evaluated according to the following system. (1) Each expert mention was awarded one point (mentions of experts linked with the innovation only 0.5 points). A maximum score of 20 was therefore possible per cluster. (2) Additional points were awarded if the innovation had an impact on the industry—incremental (five points) or radical impact (ten points). (3) An additional ten points were added if it had an impact on society. The additional points for industry and societal impact were awarded on a country-specific basis by the researchers with reference to the experts' assessments and the literature which is discussed very briefly in Section 2 in this paper.

We derive the importance of social impact for innovation and its effects from the considerations of Bruns (2014, p. 18): "Research into media innovations increasingly becomes research into societal change itself." This seems convincing because media companies are "an integral part of society and an important driver of societal dynamics in a system of complex interdependencies" (Bruns 2014, p. 20). Based on the existing literature, a number of descriptors of the possible impact of journalistic innovation in society can be identified (see also the concept of social sustainability, proposed by the United Nations), namely: education, equality, gender focus, fight against poverty, sustainability and environmental actions, commitment to diversity, transparency and democracy, social cohesion and improvements in quality of life.

The actual industry or social impact can differ in our evaluation for one and the same innovation from country to country, depending on the specific market situation. For example, in the evaluation of the innovation "News on Social Media", the social impact for Austria was given zero points, while that for Germany was given 10 points. This can be explained by the observation that News on Social Media was mentioned in the Austrian expert interviews referring to a few pioneers, but particularly in a technological context and in their role model function for the industry. In Germany, on the other hand, the experts placed the innovation much more strongly in the context of audience interaction and in relation to a young target group, which is why the social impact was rated at 10 points here.

4. Results

The most important innovations from each market are presented in this section, followed by an analysis of the innovations that were highlighted across all countries.

4.1. Austria's Top 20 Innovations

Collaborative investigative journalism is considered the most impactful field of innovation in the Austrian market, according to our results (Table 1). Looking at the development of the Austrian media market, there are clear reasons for this: About 25% of media jobs have been lost over the last dozen years in the country (Kaltenbrunner et al. 2020), so deep and complex journalism research becomes only possible in networks. According to one expert, many media houses find it impossible "to work through huge amounts of data alone". For example, the "Ibiza scandal" and "Panama Papers" were first presented by German media and followed up by Austrian partners (*Falter*). National research cooperation (e.g., *ORF* with *Der Standard* or *profil*) or between regional newspapers (*Kleine Zeitung*, *Salzburger Nachrichten*, *Oberösterreichische Nachrichten*, *Tiroler Tageszeitung*, and *Vorarlberger Nachrichten*) occur regularly, especially for the coverage of political news. In relation to this, data journalism is also highlighted due to its maximum social and industrial impact.

News in real time via the mobile channels of traditional media was also mentioned as a relevant innovation, with some paradigmatic examples such as the live tickers by *APA* news agency. Live tickers have become a popular tool that frequently involves the audience directly in online reporting. Live journalism is also supplemented by elements of citizen journalism. In line with international trends, paywalls can be found high in the rank and the many forms of interaction with the audience are also considered important

innovations. Some examples are the use of newsletters, podcasts and social media, the improvement of community management and their integration into the journalistic media (e.g., the forum management of the *Standard*, reader-reporters of *Regionalmedien Austria*) and the in-house development of tools to obtain data from thousands of daily postings and millions of users on their own platforms (e.g., *Der Standard*). In addition, new forms of encounter are created online and offline (e.g., Interactive West by *Russmedia*) to build new audience relationships. As one of the experts notes, "it is about conversation now, not only one-way communication."

Table 1. Most relevant innovations in the Austrian media market (2010–2020).

Innovation	Mentions	Industry Impact	Social Impact	Total
Collaborative/investigative	6.5	10	10	26.5
Mobile and live journalism	5.5	10	10	25.5
Data journalism	3.5	10	10	23.5
Paywalls/Paid content	13	10	0	23
Diversity	3	10	10	23
Audio/Podcast	17	5	0	22
Start-ups	10	10	0	20
Tools discourse quality	4	5	10	19
Personal/digital meetings	3	5	10	18
New organizational teams	7.5	10	0	17.5
Automation	7	10	0	17
Social media	7	10	0	17
Citizen participation	2	5	10	17
Newsletter	11	5	0	16
News only TV channel	6	10	0	16
Engagement (data)	10	5	0	15
Media labs	5	10	0	15
Video by print media	5	10	0	15
Entrepreneurial journalism	8	5	0	13
Donations/Crowdfunding	7	5	0	12

Source: Authors' own research.

In the area of organization, the selection includes innovations common to the majority of the markets, such as new work teams, medialabs, automation of processes and diversity. The diversity initiatives mentioned refer not only to the inclusion of people with a migration background in journalism (*Biber* academy), but also to addressing people from different educational backgrounds, which is the aim of the "news in simple language" by *APA* and *ORF*. Nevertheless, there are also some of them which are rare, namely entrepreneurial journalism and start-up, which are related to the new ecosystem that allows new personal and organizational brands to grow. In addition, some innovations frequently mentioned are no longer seen as conspicuous innovations in larger media markets. News-only TV channels (*Puls24*) or video channels for print media (e.g., *oe24.tv* and *krone.tv*) were still regarded as new and innovative in Austria.

4.2. Germany's Top 20 Innovations

International collaboration for investigative journalism ranks first in Germany (Table 2) due to the relevance conceded by the experts to Panama Papers and Pandora Papers investigations, which were conducted under the *Süddeutsche Zeitung* umbrella. In addition, *Correctiv* and *Riff Reporters* have emerged as two new media brands which base their investigation on collaboration with other organizations. Some experts argue that cooperation for investigative journalism enables more research activities and research formats.

The following innovations in the list reveal the fundamental role of audiences on media innovation. The experts underline the analysis of user data for personalizing news, improving the users experience and tracking their needs to develop new products in an agile way, thus improving the relationship with audiences. Even non-journalistic

recommendation systems of *Netflix* and *Amazon Prime* were mentioned several times as role models. Citizen participation via social interaction and the distribution of news on social media were also highlighted as ways of connecting with audiences. Some examples are Instagram formats by the public service company *ARD/ZDF* and the efforts by other major media brands, such as *Tagesschau*.

Table 2. Most relevant innovations in the German media market (2010–2020).

Innovation	Mentions	Industry Impact	Social Impact	Total
Collaborative/Investigative	13.5	10	10	33.5
Engagement (data)	11.5	10	10	31.5
Citizen participation	15	5	10	30
Social media	10	10	10	30
Data journalism	12	5	10	27
Storytelling	15.5	10	0	25.5
Constructive journalism	5	10	10	25
Audio/Podcast	9	5	10	24
Membership models	4	10	10	24
Diversity	2	10	10	22
Fact-checking	7	5	10	22
New organizational teams	9	10	0	19
Paywalls/Paid content	9	10	0	19
Science journalism	4	5	10	19
Mobile and live journalism	7	10	0	17
Automation	6	10	0	16
Donations/Crowdfunding	5	10	0	15
Remote work	5	10	0	15
Corporate culture	9	5	0	14
Other financing models	4	10	0	14

Source: Authors' own research.

In the area of production, data journalism and digital storytelling were mentioned by the majority of the experts. Several media brands have created their own data teams in recent years, which has placed a significant focus on the visual production of stories. One of the most outstanding examples is the data special *Who owns the city?* by *Correctiv*. Constructive journalism also stands out, as it is placed among the most important innovations unlike what happens in other countries. According to one expert, "users don't just have the need to get informed, but also to get help to perform daily". A purpose shared with science journalism, which is also listed as an innovation. Audio formats (in particular podcasts), fact-checking and mobile journalism are included as successful formats too.

To do with the monetization of journalism, the results show that some solutions which were initially adopted rather sluggishly have improved their implementation and gained importance towards the end of the decade. The mix of membership models (e.g., *Steady*), paywall efforts (e.g., *Der Spiegel*) and donations or crowdfunding (e.g., *Krautreporter* or *taz*) show broad-based attempts with positive results.

These innovations are also supported by a transformation in the methods and organization processes. An editorial culture based on cooperation and an increasing level of teamwork, rather than the traditional image of the individual journalist as a "lonely rider", the promotion of diversity in the newsrooms, the automation of some processes and a more decided introduction of tools devoted to remote work contribute to optimize workflows and create better products.

4.3. Spain's Top 20 Innovations

Data journalism, new digital storytelling, and fact-checking were considered the most relevant innovations in the Spanish media market (Table 3). The consolidation of data journalism with special teams and new roles enables coverage that goes beyond statements to promote relevant stories with social value. New digital storytelling, such

as infographics and multimedia pieces, help to make complex issues that affect people's lives more understandable. Fact-checking has become essential to ensure trustworthiness; the experts do not refer to in-house fact-checking processes, but to the launching of news verification organizations devoted to the debunking of hoaxes (e.g., *Maldita.es* and *Newtral*).

Table 3. Most relevant innovations in the Spanish media market (2010–2020).

Innovation	Mentions	Industry Impact	Social Impact	Total
Data journalism	13	10	10	33
Storytelling	15.5	5	10	30.5
Fact-checking	13	5	10	28
Social media	6.5	10	10	26.5
Mobile and live journalism	6	10	10	26
Membership models	8.5	5	10	23.5
Audio/Podcast	18	5	0	23
Newsletters	16	5	0	21
Paywalls/Paid content	11	10	0	21
Remote work	11	10	0	21
Para-Journalism	5	5	10	20
Automation	14	5	0	19
Engagement (data)	9	10	0	19
Foundation funding	4	5	10	19
New organizational teams	7	10	0	17
Collaborative/Investigative	2	5	10	17
Diversity	2	5	10	17
Science Journalism	2	5	10	17
Media labs	7	10	0	17
Branded content	3.5	10	0	13.5

Source: Authors' own research.

The distribution of journalistic content in social media and a mobile-first strategy complete the top five innovations since the majority of the Spanish news outlets have adapted their products and workflows to reach audiences across all channels and devices, thus increasing their accessibility to the news. Other innovations such as audio and podcasts, newsletters, streaming, and the treatment of users' data to foster engagement are also highlighted because they allow a sense of intimacy between news producers and consumers and increase the personalization of content. Some interviewees also underlined the scaling up of news startups, such as the newsletter-based company *Kloshletter*.

In the area of organization, multidisciplinary teams, and media labs (such as *El Confidencial* and *RTVE Lab*) were mentioned due to their significant influence on their companies to create better digital products, processes, and business models. Remote work and the automation of news production have changed newsrooms' workflows due to the COVID-19 pandemic and the implementation of artificial intelligence (AI) tools.

Regarding revenue streams, the membership model (e.g., *eldiario.es*) has a high ranking; in this model, readers make financial contributions to ensure the sustainability of quality journalism while the news content remains open on the web. Paywalls and subscription services were also underscored by several interviewees. A decline in advertising income has led to the development of native advertising formats, such as branded content, which is widely adopted by the Spanish media.

The experts also mentioned collaborative investigative journalism via international consortia, diversity and inclusion (especially gender), the growth of science journalism, and non-profit funding of news organizations (e.g., *Civio*) because of their impact on society.

4.4. Switzerland's Top 20 Innovations

The results show that a multitude of new media settings have emerged in Switzerland (Table 4). Media start-ups such as *Republik*, *Bajour*, *Tsüri*, *Prime News*, *Infosperber*, *Zentralplus*, *Hauptstadt* and *Bon pour la tete* rank first, as they obtain the maximum level of social and

industrial impact. They are often seen as a counterweight to the established media houses and economic powers, especially at the regional and local level. Local journalism was among the 20 most important innovations too, which illustrates the renewed recognition that it is indispensable for democracy when cultivated by independent actors. Niche media are also beginning to fill gaps left by established media companies. News houses such as *Babanews*, *Higgs*, *The Market*, *Gotham City*, *Das Lamm* and *elleXX* take on a narrower range of topics such as migration and integration, economic and financial crime, science journalism, sustainability and gender.

Table 4. Most relevant innovations in the Swiss media market (2010–2020).

Innovation	Mentions	Industry Impact	Social Impact	Total
Start-ups	12	10	10	32
Citizen participation	12.5	5	10	27.5
New organizational teams	12	5	10	27
Data journalism	11.5	5	10	26.5
Targeting	11	5	10	26
Storytelling	10	5	10	25
Automation	9	5	10	24
Social media	3.5	10	10	23.5
Engagement (data)	4	5	10	19
Local journalism	3.5	5	10	18.5
Quality management	3	5	10	18
Para-journalism	3	5	10	18
Collaborative/Investigative	3	5	10	18
Remote work	6	10	0	16
Diversity	1	5	10	16
Audio/Podcast	8	5	0	13
Paywalls/Paid content	3	10	0	13
Newsletter	7	5	0	12
Niche media	5	5	0	10
Donations/Crowdfunding	5	5	0	10

Source: Authors' own research.

Institutionalized dialogue with the audience and community management is also seen as innovative. From editorial topic identification to user-generated content, the audience today sometimes functions as a part of the editorial team and an important actor in the conceptual design of new products. In this respect, specific target groups stand out, as this is the only national market where it has been recognized as one of the top 20 innovations. This field reflects longstanding efforts to reach younger audiences with tailored formats such as *WeTube*, *Nouvelles Plateformes*, *Forward*, *YouNews*, personalized offerings through radio streaming, automated content and content produced by the community. The distribution of news via social media and the fostering of engagement by analyzing user data are also highlighted as relevant innovations to reach and retain new audiences.

Among the format innovations, new digital storytelling and older products—namely podcasts and newsletters—have experienced a renaissance. Although part of their success may be caused by the COVID-19 pandemic and audience's need for individualized information, in both cases their rise in importance began years ago.

In line with the international results, new organizational teams mainly comprise media-convergent newsrooms, which have overturned traditional editorial structures due to their multimedia character. The transformation of processes also includes the increasing automation of journalistic content, data journalism teams, collaboration between editorial teams in regional and international research networks or dealing with digital tools for remote work. Diversity also appears as an innovation and it includes topics such as gender, age, religious affiliation, and ethnicity. This affects the composition of teams and also the interaction with the audience, as it seeks representation within the newsroom and also in

terms of content and community. SRF's *Fifty-Fifty* and Ringier's *Equal Voice* are formats that deal with relevant issues such as equality.

Another procedural innovation worth mentioning is the implementation of editorial quality assurance systems (EQMS), mandatory for private broadcasting media by the Swiss Federal Office of Communications (OFCOM). It represents a unique characteristic of the Swiss media landscape in an international comparison which assures journalism quality in dealing with fake news and para-journalistic initiatives in a post-factual age. Paywalls and paid content as well as donations and crowdfunding are also mentioned in the Swiss case, although they appear in lower positions.

4.5. United Kingdom's Top 20 Innovations

Three main journalism innovations emerged in the UK editorial market, considered both in terms of number of mentions and overall social impact: data journalism, new storytelling, and data on audience engagement (Table 5). All three innovations reflect the development of the journalistic field in terms of a continuous datafication that affects newswork regarding production, organization, and distribution. Data journalism has led to an increasing re-evaluation of (structured) data and quantitative sources, with more specialized teams and journalists in the field. In addition, the increasing diversification of online platforms has forced newsrooms to reassess their traditional distribution strategies, to adapt to the needs and diversity of their audience. News organizations increasingly use audience metrics to achieve this. This is also reflected by the increasing shift from the traditional, one-way understanding of journalism to a journalism that caters to the needs and preferences of the audience. All top innovations can be subsumed under the phenomenon of a significant datafication of journalism in Britain.

Table 5. Most relevant innovations in the UK media market (2010–2020).

Innovation	Mentions	Industry Impact	Social Impact	Total
Data journalism	9.5	10	10	29.5
Storytelling	9	10	10	29
Engagement (data)	8.5	10	10	28.5
Collaborative/Investigative	8.5	10	10	28.5
Fact-checking	6.5	5	10	21.5
Local journalism	6.5	5	10	21.5
Remote work	1	10	10	21
Citizen participation	5	5	10	20
Diversity	4.5	5	10	19.5
Automation	9	10	0	19
Mobile and live journalism	8	10	0	18
Constructive journalism	2.5	5	10	17.5
Paywalls/Paid content	6.5	10	0	16.5
Niche media	1	5	10	16
Foundation funding	1	5	10	16
Media labs	4	10	0	14
Other financing models	4	10	0	14
Membership models	4	10	0	14
New organizational teams	8.5	5	0	13.5
Social media	3	10	0	13

Source: Authors' own research.

Technological innovations in the narrow sense—automation and media labs—were in the list, but not among the highest ranked innovations. They were often outranked by more social innovations such as diversity and inclusion, and local journalism. The experts viewed diversity and inclusion more important than mere technological innovations. Hence, contributing to socio-cultural openness—within newsrooms and the news itself, as well as supporting more limited and local realities—is seen as a crucial field of innovation. Consequently, several experts pointed out that, in recent years, some British broadcasters

have supported the development of independent local newsrooms to offer citizens media coverage that is closer to their needs.

Similarly, constructive journalism and fact-checking are underscored as relevant innovations because they represent new forms of journalism that pursue social benefits. For example, some experts mention *Full Fact* as an organization that produces "monitoring and control systems for multiple platforms", and they also identify other projects launched by start-ups and universities. It is also noteworthy that marketing innovations, such as membership, paywalls and other financing models, rank lower due to their limited perceived social impact.

4.6. Overview of the Most Relevant Innovations in the Five Countries

According to our methodology, 50 different types of innovations were merged and from them, 34 were selected among the 20 most relevant innovations at least in one of the five countries (Table 6). Out of the 34 innovations, 8 were relevant in all the selected media markets. Five innovations were highlighted in four and three markets, while other eight innovations in two markets. Finally, eight innovations were selected just in one market. It is therefore worth taking a closer look at those innovations that were assessed as particularly relevant in four or five markets.

Table 6. Total Innovations selected in the five markets.

Name of Innovation	Austria Position	Germany Position	Spain Position	Switzerland Position	UK Position
Data journalism	3	5	1	4	1
Collaborative/Investigative	1	1	15	11	3
Engagement (data)	16	2	12	9	3
Social media	11	3	4	8	20
Diversity	4	10	15	14	9
Paywalls/Paid content	4	12	8	16	13
Automation	11	16	12	7	10
New organizational teams	10	12	15	3	19
Storytelling	–	6	2	6	2
Citizen participation	11	3	–	2	8
Mobile journalism	2	15	5	–	11
Audio/Podcast	6	8	7	16	–
Remote work	–	17	8	14	7
Fact-checking	–	10	3	–	5
Membership models	–	8	6	–	16
Newsletter	14	–	8	18	–
Media labs	16	–	15	–	16
Crowdfunding	20	17	–	19	–
Journalism start-ups	7	–	–	1	–
Local journalism	–	–	–	10	5
Constructive journalism	–	7	–	–	12
Foundation funding	–	–	12	–	14
Para-journalism	–	–	11	11	–
Science journalism	–	12	15	–	–
Niche media	–	–	–	19	14
Other financing models	–	19	–	–	16
Targeting	–	–	–	5	–
Quality management	–	–	–	11	–
Tools discourse quality	8	–	–	–	–
Personal/Digital meetings	9	–	–	–	–
News only TV channel	14	–	–	–	–
Video by print media	16	–	–	–	–
Corporate culture	–	19	–	–	–
Entrepreneurial journalism	19	–	–	–	–
Branded content	–	–	20	–	–

Source: Authors' own research.

Initiatives related to the collection and analysis of data stand out as among the most relevant innovations. Data journalism is ranked first in the UK and Spain, while it is third in Austria, fourth in Switzerland and fifth in Germany. It is worth noting that for data journalism, the social impact points were awarded by all country teams, apart from a substantial number of mentions by the experts. The management of user data to improve engagement by providing targeted products, services, and content was also very relevant, especially in the UK and Germany where it occupies the second and third place. In relation to data-driven processes, automated journalism is also regarded as an innovation in all five markets and the experts highlight it as a growing trend in many newsrooms.

The results also reveal the importance of collaboration as a form of innovation in the five countries. In addition, the use of social media to distribute news and build a community—ranked very high in four markets and 20th in the UK—and the implementation of paywalls are underlined because of their great industrial influence. Last, diversity and inclusion are pointed out in all five markets, especially due to its social impact.

The five innovations highlighted in four of the five markets are related to product and organization. Fact-checking has been on the rise because of the COVID-19 pandemic. It ranks particularly high in the UK and Spain, where several fact-checkers have been launched, but it is not among the top 20 innovations in Switzerland and Austria. New digital storytelling is among the top six innovations in four countries apart from Austria. Experts regarded the rise of podcasting and audio content as a relevant innovation, except for the UK. Except for Switzerland, the experts in all other markets consider mobile journalism as a relevant innovation. Citizen's participation is not considered an innovation in Spain because it was quite popular in the 2000s and not a decade later, but it ranks high in all other four markets. Last, many news organizations successfully implemented remote work, although it was not among the relevant innovations in Austria.

5. Summary, Discussion and Conclusions

In this study, we identified the 20 most relevant innovations in five countries and compared them to look for similarities and differences in different media systems. We have thus achieved the two goals of our study: (a) to establish a reliable analytical index matrix for an international comparison, based on agreed and validated parameters for measuring the degree of journalism innovations; and (b) to identify the most relevant innovations in five countries with similar (Austria, Germany, and Switzerland) and different media systems (Spain and the United Kingdom). This creates the basis for further comparative research steps to establish interactions with the media–political system and the development of democracy.

Guided by our research questions, we first developed methodology (RQ1) to classify and measure journalism innovations. A sample of 100 experts named the most relevant innovations in their country and motivated their selection. A total of around 1000 mentions of successful innovations were registered. After a critical reflection, the elaborate method of clustering was used to identify country-specific similarities and differences. Accordingly, all the mentions were clustered into 50 different fields of innovation. In the next step, a rating system developed by the country teams evaluated these innovations according to three criteria: the number of times the innovation was mentioned in the interviews with experts, the industrial impact as a central category for the innovation capacity/role model effect within the sector, and the social impact of the innovation as a central category for the role of journalism in a democratic society. Last, the five lists of selected innovations assigned to the total of 50 fields were merged.

RQ2 addressed the most important fields of innovation in journalism from 2010 to 2020. Out of the total of 50 different areas of innovation highlighted by the experts in the interviews, 34 were included in the selection of at least one country. Eight of the thirty-four innovations were counted among the most relevant 20 areas in all five media markets included in the survey.

Regarding RQ3, we found significant differences in journalism innovations between countries with different media cultures, but also within the DACH countries that share similar media systems and journalistic cultures. Significant differences in the perception of innovation in different countries can be interpreted as the result of specific political and economic conditions. For example, the global economic crisis of 2008 had a significant impact on Southern Europe, as many journalistic start-ups emerged after massive job losses in the media sector (Valero-Pastor and González-Alba 2018). In Central Europe (e.g., Switzerland), similar journalistic initiatives developed later. In small countries such as Austria, with Germany as a large neighbor with the same language, journalistic cooperation and networks are easier to arrange, both locally and internationally (Kaltenbrunner et al. 2020). This type of cooperation has become important to expand regional markets, while cross-border cooperation is increasing the quality of investigative journalism (Hermida and Young 2021).

Technological penetration also differed between the countries. In the UK, journalistic podcasts have been standard programming for an audience of millions for more than a dozen years, and the experts no longer considered it an innovation in the last decade. In the DACH region, podcasts failed to establish themselves in a small initial wave 15 years ago but have been significant for a few years and are now viewed as a notable change in the audio sector. In addition to all the differences, there are also striking similarities in the results that should be highlighted: Data journalism is among the five most important innovations in all five countries. It can generally be said that many innovations are based on the collection and analysis of data. In all five countries, collaborative investigative journalism, data-based audience engagement, paid content and automated journalism were also among the 20 most relevant innovations.

The formation or better integration of a community, the tailor-made offer to the audience, and new forms of engagement—in summary, the improved relationship between journalists and users—is the underlying idea of a large part of innovative journalism initiatives. These include storytelling, citizen participation, mobile journalism and audio/podcast (each among the 20 most relevant innovations in four out of five countries). This strong, new orientation towards the audience arises not least from the realization that journalism without close user–medium ties, in view of the great loss of trust (Newman et al. 2021), is probably not viable in a media world of blurring boundaries—and that rethinking throughout the company is indispensable, starting with management (Küng 2013). This generally requires new organizational forms and teams, mentioned among the 20 most relevant innovations in all countries, in which work is increasingly multidisciplinary and with flat hierarchies.

Thus, cooperation appears as an overarching principle in journalism on many levels: within the news outlet in the new organizational forms, between outlet and the community from data-based audience engagement to citizen journalism, and between different national and international media in the form of collaborative investigative journalism. Technological progress is a prerequisite in many cases, but not necessarily a motivation. It seems that, at least in the context of this study with the necessary bias asking for relevant initiatives, technological innovation is not applied indiscriminately and for its own sake (Creech and Nadler 2018; Peters and Carlson 2019), but in the context of the democratic role of journalism, aimed at improving people's lives (Bruns 2014) and being guided by journalistic core values such as facticity and relevance (Meier 2019).

Established models for distinguishing and classifying media and journalism cultures, (especially Hallin and Mancini 2004) have described a number of typical parameters for assessment and historical derivation. Further framework conditions—such as more recent media–political guidelines or national economic specifics and differences in technology rollout—play a major role in innovation processes in journalism. In contrast to the "democratic corporatist model" of the DACH region, the North Atlantic "liberal model" (e.g., United Kingdom) and the Mediterranean "bipolarized pluralist model" (e.g., Spain) (Hallin and Mancini 2004) have a different innovation experience. Journalism innovation here began earlier, both in existing media houses and within new entrepreneurial projects. In

Southern Europe, especially in Spain, the effects of the deep economic crisis ten to fifteen years ago forced new journalist actors to join forces and unify faster, also outside and beyond the less unprofitable and shrinking traditional media market.

Our study is the first attempt to sort out the hitherto complex and opaque field of journalism innovations, to identify fields of innovations and to justify them methodically. Research across five countries in three media systems provides great opportunities for a comprehensive exploration of perceptions of journalism and innovation. At the same time, it is subject to limitations. While the merging of 1000 mentions was essential for an overview and comparability across five countries, country specifics could not be considered in every detail for the same reasons. The scoring system of industrial and social impact based on qualitative criteria, which completed our quantitative method, was necessary to highlight journalistic innovations with high impact and a democratic approach. Like any qualitative assessment, it harbors subjective elements that we have tried to objectify as much as possible by drawing on the existing literature, critical reflection and transparent presentation. Therefore, we consider our descriptive study a starting point and an invitation to researchers to explore the background and triggers for these innovations and thus further substantiate these findings.

Notes

[1] The DACH region refers to the three Central European countries of Germany (D), Austria (A), and Switzerland (CH).

[2] In the interviews, "successful" was defined as still implemented.

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