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Sandbox Journalism: The Role of Media Labs as Innovation Drivers in European News Organisations

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ABSTRACT

News organisations are seeking to innovate but face constraints related to time and resources for experimentation. In response, many have established in-house “labs” to support the development and testing of new ideas. This multi-national study explores how these media sandboxes operate within public service and commercial news outlets in Western Europe, as well as what they suggest about change within the journalistic field. Interviews with leaders from 12 diverse European media labs reveal the existence of three archetypes of news innovation labs: those focused on creativity and originality, those driven by business validation, and those that interpret innovation through educational programmes. Results show that innovative projects aim to serve both the parent organisations and their audiences to maintain their position in their respective countries’ journalistic landscape. But respondents highlighted challenges including cultural resistance, organisational complexity, and funding issues, which differ among European countries.

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Introduction

News organisations around the world have long recognised the need for innovation to keep up with the frenetic pace of change in technological affordances and audience consumption patterns (Belair-Gagnon and Steinke 2020). Yet many struggle to carve out time or resources to experiment amid nonstop deadline demands and financial pressures (Cools, Van Gorp, and Opgenhaffen 2024). Over the past decade, growing numbers have sought to address this problem by establishing news or media “labs” as dedicated spaces for experimentation, idea development, and institutional learning (Bisso Nunes, Mills, and Pellanda 2022), either in-house or through partnerships with external entities. Empirical research exploring contemporary iterations of these media sandboxes remains

relatively sparse, however, with a particular dearth of cross-cultural work that compares enterprises within different social, economic, and media ecosystems.

The aim of this study is to understand how journalistic innovation is conceptualised, developed, and put into practice in Western European media labs. We focus on the role of these labs and those who work in them, as drivers of innovation within their organisations and for the news industry more broadly. Drawing on semi-structured, in-depth interviews with professionals at 12 public service or commercial news labs, conducted in spring 2022, we explore variations in how this role is enacted among different types of labs in six countries representing diverse media cultures. We also consider the conditions that enable or constrain these media labs and their role in the broader news ecosystem.

Literature Review

Journalism Innovation as a Media Strategy of Value Creation

Although “journalistic innovation” has been widely studied over the past decade (Belair-Gagnon and Steinke 2020; García-Avilés 2021), there is little agreement about what the term means and even less about how to successfully implement it to enable new tools, actors, and practices to productively address the problems of contemporary journalism (Bossio and Nelson 2021). Broadly, the concept evokes “the ability to react to changes in products, processes, and services by using creative skills to identify a problem or need and solve it with something new that brings value to the environment and consumers” (García-Avilés et al. 2018, 29). It can encompass changes to one or more of three components—content and narrative, technology and format, and business model—designed to improve the production and consumption of journalistic information (Flores 2017), along with its distribution, acquisition, processing, display, and/or storage (Schmitz Weiss and Domingo 2010). It implies novel approaches and practices, ideally combining high quality and high ethical standards to enhance offerings, increase revenue, and build an audience (Pavlik 2013). The results encompass strategy, structure, and processes, generating value for a news organisation by fostering creativity and public service (Küng 2023).

However, the discourse on innovation in journalism has frequently focused on the adoption of new technologies within news organisations (Boczkowski 2004; Paulussen 2016). Many studies frame innovation as essential for the survival of news organisations in the digital era, positioning innovation as a way “out of the current media crisis” (Appelgren and Nygren 2019, 6). Yet these positions often emphasise a commercial logic rather than acknowledging journalism as an institution fulfilling crucial societal responsibilities. Critics say journalism has shifted away from its traditional societal commitments, focusing too heavily on technological novelty while neglecting enduring roles and responsibilities in society (Kreiss and Brennen 2016). Instead, as Deuze and Witschge (2020) say, innovation in journalism should be understood as going beyond technology to encompass emotion, affect, and a focus on institutional and democratic roles. A mature approach to innovation, therefore, recognises the selective use of technology to enhance audience engagement, ensuring that journalism fulfils both its commercial and public functions (Anderson and Borges-Rey 2019).

Still, a paradox has become clear: Despite a general sentiment that multi-pronged innovation is crucial to the survival of news organisations (Hermida and Young 2021), researchers have found that newsroom change is difficult to implement and frequently resisted by practitioners (Bunce 2019; Ekdale et al. 2015). Some scholars also have expressed misgivings about the growing interest in innovation, calling for more reflection on the nature of change and indiscriminate technological adoption (Peters and Carlson 2019). Concerns include perceived challenges to professional norms and practices (Belair-Gagnon and Steinke 2020; Ferrucci and Perreault 2021), excessive fascination with technological “bright, shiny things” (Posetti 2018) to the exclusion of substantive cultural transformation (Küng 2020), a discouraging litany of material failures (Bossio and Nelson 2021), and erosion of traditional boundaries between the editorial and commercial sides of the company (Drew and Thomas 2018).

In contrast, other scholars have lauded innovation and investigated the hallmarks of its success. Collaboration across departments—notably editorial, business, and technology—has been highlighted as essential to successful development and implementation (Westlund, Krumsvik, and Lewis 2021). Newsrooms have incorporated new technologies to improve collaborative editorial practice, as well as to enhance creativity and to implement specific new offerings (Carson and Farhall 2018; Koivula, Villi, and Sivunen 2023; Malmelin and Virta 2016). Indeed, despite some misgivings, both industry and academic discourse around innovation has been broadly positive (Vos and Singer 2016). Innovation has been described as potentially helping media companies achieve sustainability and develop their public service function (Bruns 2014), while organisations that fail to innovate have been portrayed as stagnant (Lowrey 2011).

Artificial intelligence (AI), for instance, represents a particularly significant example of technological disruption to contemporary journalism. AI tools are increasingly embedded in newsroom workflows—from content automation and personalisation to data analysis and editorial decision-making (Diakopoulos et al. 2024; Verma 2024)—but their integration raises pressing ethical and professional concerns, including transparency, algorithmic bias, and the risk of job displacement. Media labs—as experimental spaces where new affordances are actively tested, debated, and shaped (Bisso Nunes, Mills, and Pellanda 2022)—are therefore on the frontline of efforts to critically assess the implications of AI rather than adopt a deterministic view that its incorporation into news work is inevitable.

Overall, innovation in journalism tends to involve a difficult interplay among different factors that either support or obstruct the implementation of new ideas (Meier et al. 2024). Key supportive factors often are found at the organisational level, including open-minded management, the freedom to experiment without financial pressure, and the formation of interdisciplinary teams within and across organisations. External drivers such as societal changes, technological advancements, shifts in the digital media landscape, and audience demands for diverse content also foster innovation. At the same time, rigid structures, resistance from colleagues, and a lack of financial and technological resources often stall progress. In addition, insufficient political support and anti-media sentiment among the public pose challenges to innovation (Meier et al. 2024).

Despite these obstacles, collaboration, interdisciplinary approaches, and societal support are seen as critical in advancing journalistic innovation, because innovations can have an impact beyond the company that implements them and its audience: If

innovations gain industry acceptance, they can create trends. Market pioneers can gain a sustainable competitive advantage by forcing other players to adapt to the new scenario (Covin, Slevin, and Heeley 2000). For instance, in the last decade, data journalism, collaborative journalism networks, audience engagement, news distributed via social media, and paywalls have been among the foremost journalistic innovations in Western Europe (Meier et al. 2024).

Moreover, the nature of information as a public good suggests beneficiaries of innovation are not limited to direct recipients (Dogruel 2015). As Bruns (2014) argues, a full understanding of innovation processes in journalism requires a holistic perspective, considering media ecology as a constitutive element of evolving social structures. This means journalistic innovations can be beneficial not only to news organisations and their stakeholders but also to a democratic society, for instance, through activities such as fact-checking or widened participation (Meier et al. 2024).

News Labs as an Organisational Approach to Change

As part of their digital transformation, some news organisations in both the public and private sectors have built innovation labs to respond to technological, communication, and economic changes (Bisso Nunes and Mills 2021). Innovation labs are not the only choice for pursuing innovation, but they are adaptable and broad enough to meet diverse goals. As experimental research units, their “‘needs’ are not fixed assets, nor known and defined in character. They depend on context” (Lenoble, Garcia, and Westenberg 2010, 54), encompassing not only news but also such spheres as art, technology, and public spaces.

Scholars have applied case studies and mapping strategies to explore media labs (Mills and Wagemans 2021), including educational labs (Capoano and Ranieri 2016) and experimental labs within a range of media enterprises (Boyles 2020; Clarke 2019; García-Avilés 2018). Of most relevance to this study is the work on labs launched by news organisations. These can be dedicated to developing digital applications and technologies; exploring new multimedia narratives and data journalism; promoting entrepreneurial initiatives and startups; or providing professional training or media literacy programmes (Bisso Nunes and Mills 2021). Those focused on research and development represent a significant step for media companies that historically have relied on technology suppliers for this function (Dal Zotto and van Kranenburg 2008). Over the years, however, some labs have shifted from their original technology-related goals to a more socially oriented approach (Dekker 2011; Tanaka 2011). Proponents say their importance lies less in technological innovation than in their ability to create spaces for interdisciplinary experimentation that facilitates the imagination of journalistic, media, and communication futures (Bisso Nunes and Mills 2021).

The prevalence of news labs has increased in recent years; more than 85% of existing labs have been created since the late 2000s, most of them between 2011 and 2018 (Bisso Nunes, Mills, and Pellanda 2022). Yet some face an uncertain future because of funding constraints and a typical lack of space dedicated to innovation within newsrooms (Cools, Van Gorp, and Ogenhaffen 2024).

Recent scholarship has identified a “second generation” of labs, launched in the past 10 years and building on lessons learned in earlier initiatives (Hogh-Janovsky and Meier 2021). Although diverse in their nature and scope (Mills and Wagemans 2021), these

newer media labs fall broadly into three categories: the static, with an established team dedicated to one or multiple projects; the dynamic, with fluid teams constituted on a per-project basis; and the hybrid, with both static and dynamic elements (Cools, Van Gorp, and Opgenhaffen 2024). These newer labs tend to be better integrated into the newsroom's organisational structure than earlier generations and thus able to dedicate more attention to journalistic needs. They also generally favour a networked approach, which can involve collaborating with other organisations as well as promoting the diffusion of both specific projects and general know-how within their own company, seeking to foster creative solutions to storytelling challenges (Hogh-Janovsky and Meier 2021; Zaragoza-Fuster and García-Avilés 2020).

Initiatives arising from news labs are many and varied. They include the development of new digital tools, platforms, or access channels; business or revenue opportunities; and narrative strategies, usually involving novel applications of software or data. This multitude of structures, methods, and outcomes can make patterns difficult to identify, but media labs broadly suggest the emergence of a new professional field of "journalism innovators" (Bisso Nunes and Mills 2021). In general, they can be described as providing space—physical and symbolic—for teams of people with varied areas of expertise to search for solutions to the problems of a digital world (Zaragoza-Fuster and García-Avilés 2024). Integration with the main newsroom is often challenging, however, as these innovation units tend to be regarded as service providers (Cools and Koliska 2024; Cools, Van Gorp, and Opgenhaffen 2024). Additionally, news labs often entail difficult organisational challenges since they rely on interdisciplinarity and experimentation in news work.

Focusing on the process of change is particularly useful to the aim of our study because it encompasses dichotomous considerations of old versus new approaches and understandings (Maares and Hanusch 2022). Changes in journalistic practice can and do lead to changes in normative discourse, casting some new practices or ideas as legitimate and others as illegitimate (Craft, Vos, and Wolfgang 2016) and sometimes leading to a more significant re-figuration of journalism (Hepp and Loosen 2022). Traditional elements of journalism, such as the ability to produce high-quality investigative reporting, can thus give way to new factors such as technical skills or proficiency with metrics (Lewis and Usher 2014).

News labs and their staff, then, essentially are cast in the role of innovation drivers within their organisations, crucial actors who challenge and potentially shift normative perspectives as well as journalistic practices. Although some innovations are championed by actors outside legacy organisations, for instance media entrepreneurs (Chew and Tandoc 2024) or advocates of specific new approaches such as engaged journalism (Nelson and Wenzel 2022), others seek to instigate change from within - in particular by arguing for the integration of new skills, ideas, and abilities into journalism (Falck and Barnes 1975). It is the work of this latter sort of transformational actor that is our focus of investigation here.

Considering previous work on innovation in general and media labs in particular, our overarching research question concerns how journalistic innovation is conceptualised, developed, and put into practice in media labs across Western Europe, including the role of these labs and those who work within them. To address this topic, we pose three more granular research questions:

RQ1: What organisational roles and strategic goals do media labs fulfil?

RQ2: What are the dominant definitions of journalism innovation within media labs?

RQ3: What conditions enable or constrain media labs in acting as effective instigators of change?

Methodology

Our team began work in 2022 by identifying two news labs in each of six Western European countries, selected because of their diverse media cultures as categorised by Hallin and Mancini (2004) in their seminal work. These countries are Italy, Portugal, and Spain in southern Europe; Belgium and Germany in north-central Europe; and the United Kingdom as a representative of the Anglo-American media (see Table 1). We sought to include one lab operated by the public service broadcaster and the other by a private media organisation, providing a diversity of institutional contexts, approaches, and innovation goals.

In Belgium, DPG Campus (private) and VRT Sandbox (public) represent distinct innovation strategies. Campus DPG, part of the commercial DPG Media, emphasises

Table 1. Media labs included in the study.

Country	News lab	Founded	Funding	Summary description
Belgium	VRT Innovation Lab	2017	Public	Introduces new ideas and technologies to VRT by organising collaborations with startups, scale-ups, and entrepreneurs.
Belgium	DPG Media Campus	2015	Private	Focuses on education and training for media professionals.
Germany	Deutsche Welle Lab	2018	Public	Researches, develops, and tests ideas for new digital projects.
Germany	HH Lab (NOZ Digital)	2018; folded in 2022	Private	Supports editorial offices of NOZ media group to develop new formats and products.
Italy	GEDI Media Lab (<i>La Stampa</i>)	2018	Private	Supports innovation at Italian media group; replaces earlier in-house lab.
Italy	LAB24 (<i>Il Sole 24 Ore</i>)	2018	Private	Collaborates with newspapers to implement innovation, including in AI and data visualisation.
Portugal	RTP Lab	2017	Public	Experiments with new forms of multi-platform content production to stimulate creativity, focusing mainly on entertainment content.
Portugal	JN&DN media lab (<i>Jornal de Notícias</i> and <i>Diário de Notícias</i>)	2010/2016	Private	Through workshops at schools and informal education activities, provides media literacy training for children in conjunction with leading newspapers.
Spain	RTVE Lab	2011	Public	Focuses on interactive storytelling, web docs, and social media to help public broadcaster with innovative content production.
Spain	El Confidencial.LAB (<i>El Confidencial</i>)	2013	Private	Creates innovative projects—particularly around new languages, and organisational and production systems—to support growth of digital newspaper.
United Kingdom	BBC News Labs	2012	Public	Functions as bridge between journalists and R&D team, applying technical expertise to specific challenges in news production.
United Kingdom	FT New Product Development Unit (<i>Financial Times</i>)	2020	Private	Serves as B2B arm of product development for financial newspaper, catering primarily to needs of external clients willing to pay for innovative solutions; replaces previous <i>FT</i> lab.

educational training for journalists and combines intuitive and data-informed approaches. VRT Sandbox at the Flemish national broadcaster focuses on technological integration and start-up collaboration, promoting a culture of learning from failure.

Germany's Deutsche Welle Lab (public) and HH Lab (private) illustrate contrasting trajectories. DWL, operating within Germany's public broadcaster, encourages experimental projects to enhance global outreach despite limited staffing. HH Lab, once a driver of digital transformation in regional newspapers, has now been discontinued due to legal and funding challenges.

In Italy, a focus on two private companies best met our overall study goals. Italy's Lab24 and *La Stampa's* innovation hub demonstrate efforts to embed innovation in traditional editorial workflows, often constrained by bureaucratic and financial barriers. Lab24, from Il Sole 24Ore, specialises in visual content and format innovation, while *La Stampa's* hub works to maintain integration with editorial teams despite organisational instability.

In Portugal, RTP Lab (public) and JN&DN Media Lab (private) adopt open innovation strategies targeted at end users. RTP Lab engages emerging media professionals, while DN&JN Media Lab collaborates with students to promote media literacy and content experimentation.

Spain's RTVE Lab (public) and El Confidencial's lab (private) showcase a blend of public and private innovation efforts, with RTVE Lab acting as an incubator for new storytelling methods and El Confidencial integrating multidisciplinary teams to drive organisational and product innovation.

In the United Kingdom, BBC News Labs (public) and the *Financial Times'* New Product Development Unit (private) represent advanced stages of innovation. BBC News Labs, with a diverse team, bridges editorial and technological efforts through iterative project sprints, while the FT's product development initiative pivots towards a B2B model, focusing on scalable, customer-driven innovation.

Semi-structured interviews are widely used in exploratory studies such as this one; they entail a focused, purposeful conversation (Brennen 2013) but provide the flexibility needed to respond to subjects' insights, interests, and areas of expertise (Galleta 2013; Lindlof and Taylor 2019). We conducted 12 semi-structured interviews with professionals responsible for the operation or strategy of each of the selected media labs - one interview per lab, resulting in two interviews per country. In total, we interviewed seven men and six women¹, ranging in age from mid-30s to 60; all occupied senior roles such as lab directors, heads of innovation, or senior product managers. To preserve anonymity, individual roles are not disclosed, but all participants were selected based on their direct involvement in the lab's day-to-day innovation processes or strategic planning.

The interview guide, developed collaboratively by the research team, was pre-tested with one participant from outside the sample to assess clarity and thematic balance. It consisted of 12 open-ended questions, grouped into four thematic blocks: (1) origin and goals of the lab, (2) definitions and perceptions of innovation, (3) operational practices and organisational integration, and (4) supporting and limiting factors for success. The interviews lasted between 35 and 70 min and were conducted in April and May 2022, either virtually (10 interviews) or in-person (two interviews), depending on location and participant availability. The hybrid method did not affect the viability of data collection or analysis, as the use of video conferencing does not detract from interview quality (Hanna 2012; Salmons 2014).

All interviews were conducted in the native language of the respective country. They were audio-recorded, transcribed using Descript or equivalent transcription software, and then, if necessary, translated into English by researchers fluent in the respective languages to ensure both linguistic and contextual accuracy (Berger 2020; Braun and Clarke 2013). We employed thematic textual analysis (Braun and Clarke 2013), supported by a hybrid coding framework combining deductive and inductive elements. Deductive categories were informed by our research questions (e.g., definitions of innovation, organisational barriers), while inductive categories emerged from repeated reading and coding of transcripts (e.g., “experimentation culture,” “generational barriers”). Coding was conducted using collaborative spreadsheets, allowing the research team to cross-validate emerging themes and ensure intercoder reliability through regular consensus rounds.

This methodological approach enabled the identification of cross-national patterns and differences while preserving the nuanced voices of participants, which are quoted selectively throughout the results section to support analytical claims. Specifically, each interview was analysed based on our three research questions, with the texts coded according to interpretive categories such as the concept of innovation and the criteria for success or failure.

Results

Among the labs in the six countries, we found considerable diversity as well as some commonalities, including a struggle to identify an optimal fit within the larger organisation; continuous experimentation to find effective or efficient approaches to innovation; and challenges in overcoming cultural resistance to change, particularly from the editorial team. A quick reminder that change is ongoing in these dynamic media sandboxes; the interview data presented below reflect respondents’ experiences and thinking as of Spring 2022.

We begin with a brief overview of each lab, emphasising its goals, audience, and the factors facilitating or limiting success, followed by a comparative analysis. We use the plural pronoun “they” with the quotes below to help anonymise our interviewees.

Belgium

Campus DPG, part of the commercial news outlet DPG Media, was founded in 2015 and focuses mostly on educational training for journalists. Around 10 people worked for Campus DPG, producing training programmes for company professionals in Belgium and The Netherlands. Our interviewee said Campus DPG was established to meet a perceived need to better serve the outlets’ audiences, including by enabling the creation of new types of journalistic content. “For me, it is really about where the media should be to satisfy their audience in 2023–2025,” the interviewee said. To understand training needs and potential knowledge gaps, Campus DPG annually conducted “a round of ‘what do you need?’ talks” with group editors-in-chief, in addition to internal meetings to identify key projects.

In defining innovation, our Campus DPG interviewee referred to a desire “to keep the trains running, and I think that we’ve gotten a lot of trains running already,” adding the company had become so big that it could be hard to see what had already been achieved.

A lack of measurements for success and failure both supported and limited the implementation of media lab initiatives, they said. “I want to measure, but I also want to keep room for intuition and gut feeling,” the interviewee explained. “And I think innovation projects don’t need validation.”

VRT Sandbox, established in 2017 at the Flemish national broadcaster VRT, was all about introducing new ideas and technologies within the organisation. Our interviewee said the lab was established in a deliberate move to link the creation of new journalistic tools with the support needed to help people use them. Sandbox collaborated with external startups and scaleups to provide the right internal tooling for VRT. “For me, it is mainly about starting from the mission of a journalist,” our interviewee said, adding that implementing a particular new tool was just the start of what should be a broader consideration of how to refine work processes. Mistakes were central to the learning process of innovation for VRT Sandbox. Our interviewee pointed out that transparency about the learning process also was important: “We don’t want to cover up what went wrong, and [therefore] share it with members of the company. We’ve actually done that since the first day we existed, also linking lessons learned to these failures.”

Germany

Deutsche Welle Lab (DWL), founded in 2018, is the lab of Germany’s public service broadcaster, producing German programmes for users abroad. It aimed to provide room to experiment and potentially to fail, to allow editorial staff to start projects quickly and thus expand their reach, and to increase knowledge about the development of innovative media products. Our DWL interviewee defined innovation as a project that breaks with old forms and adds value for users: An innovation is something “you haven’t seen before” but that people will want to use, they said.

Staffing levels were a limitation, however. Only one or two people worked in the lab itself; the idea was that when they had developed something innovative, others in the company would take it up. But as news is a non-stop enterprise, there may not be enough time to implement the DWL innovation within existing workflows. Our interviewee said success stems from working collaboratively, so that different perspectives are incorporated in development of an idea, as well as from management support for integrated new tools or approaches.

In contrast, HH Lab was the sandbox for two privately owned regional newspapers, the *Schleswig-Holsteinischer Zeitungsverlag* and the *Neue Osnabrücker Zeitung*, which merged in 2016 and founded the innovation lab two years later. It aimed to drive the digital transformation of the company, and the print industry more broadly, through product development and enhancement. Ultimately, our interviewee said, its goal was to liberate journalism from its economic dependence on print by identifying a model for digital local journalism that is both journalistically and economically viable. To meet these goals, the lab developed new formats but also worked on incremental innovation of existing products, collaborating with external companies to learn more about audiences and enable effective product marketing. A KPI Master was part of the HH Lab team, tasked with asking questions about how the success of the innovation might be measured. Our interviewee described increasing professionalisation of the innovation development process, reducing reliance on trial and error.

Legal restrictions such as data protection can create obstacles, for instance, to learning more about user behaviour. But the biggest inhibiting factor, our interviewee said, was the lack of public funding. Because a legal framework to fund labs like the HH Lab was not in place, funding went toward print delivery subsidies rather than promoting innovation, and several months after our interview, HH Lab closed. Its staff was integrated into the newspaper companies.

Italy

Lab24, founded in 2019 as the innovation lab of *Il Sole 24Ore*, was initially conceived as a visual lab but subsequently expanded its focus. According to our interviewee, its primary goal in 2022 was to meet readers' needs by adapting content through innovative formats, visuals, and interactive projects. Unlike separate innovation units, Lab24 was fully integrated into the traditional editorial structure. Success, as highlighted by the interviewee, depended on Lab24's ability to develop projects that became routine for the entire editorial staff, not just the lab itself. Close collaboration with journalists during the innovation process was considered a strength. However, the interviewee pointed out a couple of limiting factors, particularly in recruitment. Slow generational turnover in Italy, exacerbated by bureaucratic obstacles, prevented young talent from being hired. Additionally, financial constraints hampered the adoption of technological innovations and limited the ability to hire experts or foster external collaborations.

The other Italian lab in our study belongs to *La Stampa*, an innovation hub that has won several awards. Until 2017, *La Stampa* had its own innovation lab, but it was then moved to the parent company GEDI, which also owns *La Repubblica* and *National Geographic Italia*, among other outlets. This organisational change, according to the interviewee, caused the drive for innovation to stall. While the lab's earlier close collaboration with journalists enhanced news production and improved public service, the move created a sense of disconnection. The lab became less visible in the newsroom, making it harder to address the specific needs of different outlets. Although the relocation may benefit the broader group, the interviewee emphasised that innovation labs must stay closely connected with editorial staff to pursue reader-oriented journalism. Furthermore, the move weakened relationships with universities and external partners, worsening recruitment challenges. As innovation becomes increasingly data-driven, hiring specialists in digital journalism has become more difficult.

Portugal

RTP Lab, established in 2017 by Portuguese public service broadcaster RTP, experiments with new forms of audiovisual content production for multiplatform distribution, seeking to discover talents in new genres. Its goal is to provide a space for upcoming media professionals in Portugal to showcase their multimedia works. Our interviewee said the lab drew on an open innovation strategy, with external early career participants selected based on public calls. The lab sought to help RTP stand out in a competitive national media environment, highlighting technological and narrative innovations, "always considering our Portuguese reality," our interviewee said.

Narratives, both journalistic and fictional, were a focus for the lab; our interviewee highlighted projects related to audience interactivity, transmedia experimentations, original fictional stories, and discussions around technology topics such as the metaverse or artificial intelligence. They listed only one journalistic project, a documentary with a not-taboos discussion about menstruation. Metrics were not a key indicator of project success for the RTP Lab; however, our interviewee expressed pride in attention from the Portuguese press, which supported its goal of disseminating participants' work.

JN&DN Media Lab is the initiative of Global Media Group, which owns the newspapers *Jornal de Notícias* (JN) and *Diário de Notícias* (DN). It also relied on an open innovation strategy and formative approach. However, the public it targeted was different: While the RTP Lab focused on early career media professionals, JN&DN Media Lab dealt with elementary and high school students. The lab was dedicated to promoting media literacy through workshops and non-formal education, empowering students with critical thinking skills to mitigate misinformation and fostering their capacity to engage in journalistic endeavours across diverse formats. Its strategic goals were to bridge the gap between journalism and education; to contribute to students' media literacy; and to find and engage new audiences.

JN&DN Media Lab operated independently of the newspapers, with teams in Porto and Lisbon. Our interviewee explained that the lab's business model was based on fixed fees paid by each participant school, though that structure made it especially vulnerable to pressures stemming from the education sector's response to the COVID-19 pandemic.

Both RTP Lab and JN&DN Media Lab operated with a fixed internal team and a dynamic set of selected external participants, who were encouraged to experiment with content production. They derived support from open innovation strategies; however, the sustainability of their business models was a potential limitation.

Spain

Public service RTVE Lab, founded in 2011, was described as an innovation incubator because RTVE newsrooms find it difficult to innovate. "The day I see a newsroom that can overcome the rhythms of current events and create innovation outside the rhythms internally imposed, I will favour innovation being integrated into the newsroom," said our interviewee. As many RTVE employees were reluctant to change, the lab's 12 professionals took the lead and collaborated with other units such as television, online, and social media.

At RTVE Lab, journalistic innovation was defined as the search for new ways to tell stories, incorporating languages and tools to expand the news product across platforms. "Applying new narratives as well as new technologies creatively is what defines innovation," our interviewee argued.

The *raison d'être* of the lab launched by digital-only news outlet El Confidencial in 2013 was to push innovation in an integrated way. Lab personnel sought to work with colleagues from the 150-person newsroom to avoid becoming "an innovation silo." About 35 staff were divided into multidisciplinary teams—journalists, developers, and designers—devoted to artificial intelligence, data journalism, audience development, user research, and subscriptions. The lab had a holistic function "to understand where the company will be in three to five years, to explore the direction and to be the

beacon for that journey,” explained our interviewee. Therefore, its mission was “to sow the seeds of innovation” in the strategy.

For El Confidencial’s lab, innovation implied developing successful products or processes that nobody had previously implemented. “If a multidisciplinary team at the centre of the newsroom changes the entire workflow and improves the value proposition, that is innovation,” our interviewee said. “For example, having a Data team in the decision-making of the whole business operation allows us to grow fast and increases the company’s revenue.” Journalism innovation not only focused on media products but also on organisational structures and processes that add value to customers and the news outlet.

Supporting conditions for both media labs related to their funding a professional culture based on flexibility, autonomy, and teamwork, as well as the collaboration of lab members with professionals across the organisation. Among the hindering conditions highlighted were lack of management involvement, budget cuts, internal tensions, and competition with other newsroom units.

United Kingdom

BBC News Labs, founded in 2012, described itself as an “incubator charged with driving innovation” for news at Britain’s public broadcaster. The Labs were intended to function as a bridge among journalists, technologists, and R&D experts, with a team of 15–20 staffers—whose roles include editor, producer, UX designer, and software and systems engineer—applying technical expertise to specific challenges in news production. “Diversity of thought and diversity of experience [are] absolutely key to successful innovation,” our interviewee said. “Otherwise you just get this groupthink.” Although specific roles had evolved, the fundamental concept remained “bringing editorial purpose to the research and innovation that we do,” they added. That purpose related to identifying priorities that fit “what is acceptable within the BBC standards and editorial ways of doing things.”

The work of the News Labs team typically occurred in “sprints,” progressing through stages of ideation, development, and assessment. Overall, the interviewee described their role within the BBC as “bridge builders,” drawing on their knowledge of who is doing what across a large and often bureaucratic corporation to foster connection, collaboration, and creativity.

At the *Financial Times*, the former FT Labs was disbanded in 2020 as the commercial newspaper, which primarily serves a high-end audience interested in economic information, shifted its innovation focus to a B2B model. The New Product Development Unit catered mainly to external clients willing to pay for innovative ways to address particular needs. “We can’t see how we can go much further by getting more subscribers on the website,” our *FT* interviewee said. “So we’re looking for how we can scale up to much bigger opportunities.”

With a team roughly comparable in size to that of the BBC—similarly including developers, designers, and product managers—the scope of their work ranged from “rough and ready” in-house prototypes to more “slick” products that “we put in front of customers and ... hope they pay for it.” More broadly, our interviewee said, interest had shifted from designing one-off products to “building a platform for building things” to enable innovation to be ongoing and to encourage relatively low-risk experimentation.

“The more ideas we think of, the more we can start building the capabilities that might support any of those ideas,” our interviewee stated. “It’s not the next product that’s the thing. It’s the next 10 products that’s important.”

Lab Archetypes: Media Lab Orientations and Rationales

The orientations and rationales for the establishment of media labs (RQ1) across Europe was motivated by various organisational needs and strategic goals, reflecting the diverse contexts in which they operate. This research unveils the existence of three distinct news innovation lab archetypes in Europe: (1) those emphasising creativity and innovation in processes and practices, (2) those that institutionalise and validate business-oriented and target-specific product outputs, and (3) those that interpret innovation in relation to educational programmes. Table 2 provides an overview. The first two archetypes focused on an external audience, while the third invested in educating internal members of the media organisation as well as external audiences.

For labs focused primarily on creativity and innovation, often rather loosely interpreted, the emphasis was on innovation of work processes, practices, and formats. These labs tended not to define precise success metrics, and although their goal was to promote cultural change, they often struggled to establish a clear strategic vision shared by others in the organisation. In other words, these labs sometimes opted for intuition over pragmatic validation, displaying a reluctance to embrace a business-oriented mindset. Examples included VRT Sandbox (Belgium), Deutsche Welle Lab (Germany),

Table 2. Media lab archetypes.

Archetype	Lab	Country/Region	Main goal/Orientation
Creative Orientation	VRT Sandbox	Belgium/ Northern Europe	Introducing new ideas/tools within newsroom, partnering with start- and scale-ups
	Deutsche Welle Lab	Germany/ Northern Europe	Experimentation to expand reach
	Lab 24 (Il Sole 24 Ore)	Italy/Southern Europe	Innovative formats, visual journalism
	RTP Lab	Portugal/ Southern Europe	Audiovisual content experimentation
	RTVE Lab	Spain/Southern Europe	Cross-platform storytelling innovation
Business Orientation	HH Lab	Germany/ Northern Europe	Drive digital transformation, economic viability
	GEDI/La Stampa lab	Italy/Southern Europe	Innovation hub within media group
	EI Confidencial	Spain/Southern Europe	Integrated newsroom innovation
	BBC News Labs FT New Product Development Unit	United Kingdom United Kingdom	Bridge between journalism and R&D B2B innovation and commercial scalability
Educational Orientation	Campus DPG	Belgium/ Northern Europe	Journalist training, internal learning
	JN&DN Media Lab	Portugal/ Southern Europe	Media literacy and education

RTVE Lab (Spain), Lab24 (Italy), and RTP Lab (Portugal). Deutsche Welle Lab (DWL), for example, was established to foster experimentation and expand the organisation's reach through innovative media products that break away from traditional journalism forms. RTP Lab was created to experiment with new formats of multiplatform content production, particularly in entertainment, aiming to stimulate creativity.

The second archetype adopted a more institutionalised business-oriented approach that was spurred mainly by economic and business pressures within the news industry, making them more likely to seek validated results. The goal of these labs was to realise an organisational vision, integrate departments, and holistically address contextual and/or organisational challenges. Our interviewees from labs in this category articulated a clear vision that innovation should add value to their audience, adopting a user-centric approach rather than one oriented toward the aims and desires of journalists. Examples included HH Lab (Germany), *La Stampa* (Italy), El Confidencial (Spain), BBC News Labs (UK) and the *FT* New Product Development Unit (UK). El Confidencial Lab, for example, was divided into multidisciplinary teams devoted to artificial intelligence, data journalism, audience development, user research, and subscriptions, seeking to translate abstract ideas into business realities. Similarly, BBC News Labs worked with sprints of 10 weeks to progress through ideation, development, and assessment stages.

The last archetype, the labs that linked innovation to a predominantly educational approach, were focused on internal and / or external training, and were less oriented towards serving as a sandbox for new products. Instead, they focused more on accelerating learning activities and trying to break down "knowledge silos," both within a news organisation and among new or existing audiences. Our two examples were Campus DPG (Belgium) and JN&DN Media Lab (Portugal). Campus DPG was established to improve the transfer of processes and knowledge between the different teams and departments. JN&DN Media Lab was founded, in part, to provide media literacy training for children, thereby integrating innovation into educational contexts.

Defining Journalism Innovation

The definition of journalism innovation (RQ2) varied across these labs, shaped by their distinct organisational missions and environments. Although many interviewees struggled to provide a straightforward definition, as a group, they variously framed innovation in relation to improving audience experiences, redefining journalistic processes and tools, investing in educational training, and achieving economic targets.

In Belgium, for example, our interviewee at Campus DPG saw innovation as creating new journalistic content that meets audience needs, whereas the interviewee at VRT Sandbox defined innovation as the integration of new technologies and tools into the editorial process, emphasising the importance of learning from mistakes. In Germany, Deutsche Welle Lab and HH Lab interviewees both viewed innovation as introducing new media products that break from traditional forms. However, HH Lab also focused on supporting editorial teams directly with new format development.

In Italy, our interviewee at Lab24 interpreted innovation as modernising and adapting content formats to better meet reader demands, while GEDI Media Lab supported broader content and technological innovation efforts within the Italian media group. RTP Lab, part of Portugal's public service broadcaster, focused on innovation in

multiplatform content, particularly in entertainment, defining it as stimulating creativity across different media formats. The commercial JN&DN Media Lab had a unique focus on media literacy and defined innovation with educational content and training for children.

In Spain, RTVE Lab defined innovation as creative storytelling that uses new narratives and technologies to enhance cross-platform content delivery, while our interviewee at El Confidencial. LAB emphasised the development of new organisational and production systems to support the digital newspaper's growth. And in Britain, BBC News Labs underscored the importance of applying technical expertise to overcome news production challenges, serving as a critical link between journalism and research and development. The FT New Product Development Unit focused on delivering innovative B2B solutions to meet the specific needs of external clients, defining innovation in terms of its commercial applicability.

Very broadly, the Northern European labs in our study tended to formalise innovation through structured, professionalised, and process-oriented approaches. For instance, BBC News Labs described itself as "an incubator charged with driving innovation" and structured its work in "sprints." Similarly, HH Lab in Germany emphasised "increasing professionalisation of the innovation development process" and relied on a KPI Master to evaluate success, while VRT Sandbox was "established in a deliberate move to link the creation of new journalistic tools with the support needed to help people use them." Even in more nuanced Northern cases such as Campus DPG and Deutsche Welle Lab, formal processes remained present through structured training programmes or management-supported collaboration.

In contrast, interviewees at Southern European labs defined innovation through more flexible, creative, and culturally embedded practices. Our interviewee at RTP Lab in Portugal, for example, said they drew on "an open innovation strategy, with external early career participants selected based on public calls" and focused on "audience interactivity, transmedia experimentations, and original fictional stories." Likewise, our Spanish interviewee at RTVE Lab defined innovation as "the search for new ways to tell stories," applying new narratives and technologies across platforms, while the interviewee at Lab24 in Italy highlighted "close collaboration with journalists during the innovation process" rather than reliance on formalised evaluation metrics. The GEDI/La Stampa Lab case further illustrates how cultural and organisational changes can weaken innovation structures, as its move to the parent company "caused the drive for innovation to stall." Educational models, such as the one followed by JN&DN Media Lab, also reflected this open and adaptive spirit by fostering "workshops and non-formal education" to promote media literacy.

Supporting and Limiting Conditions for Success

Our results regarding supporting and limiting conditions (RQ3) reveal that a labs' success was predominantly influenced by collaboration or its absence organisational (mis)alignment, and, in some cases, the availability of public or private funding. Our data also show that the presence of specific success measurements was especially pronounced among labs that adopted an incubator rationale, seeking to boost collaborative creativity among actors with different levels of experience and areas of expertise such as journalists, technologists, and visualisation experts. These more fluid understandings of innovation,

which also encouraged more junior colleagues to play a leading role, enabled diverse actors to spend time together before returning to their usual roles. While this approach may be more fruitful in terms of creativity, our interview data suggest it also is complex to implement and often encounters organisational, bureaucratic, or cultural obstacles.

From a comparative perspective, we again observed differences in labs located in different regions of Europe. Across our three more northerly European countries, labs shared broadly similar goals of driving innovation within their organisations but were limited by financial constraints, organisational complexity and—except for the FT New Product Development Unit—a lack of clear success metrics. Issues seemed especially pronounced in Germany, as Deutsche Welle Lab and HH Lab both relied on collaboration and management support to integrate innovations. HH Lab's closure in 2022 suggests significant challenges, possibly related to sustainability or integration.

In our three Southern European countries, media labs encountered distinct challenges and opportunities. Italy's Lab24 and GEDI Media Lab grappled with slow generational turnover, difficult internal dynamics, and economic crises, while in Portugal, RTP Lab and JN&DN Media Lab struggled with remote work and sustainability concerns. But despite obstacles, supportive conditions such as open innovation strategies and internal collaboration enabled experimentation and creativity. In Spain, RTVE Lab and El Confidencial LAB confronted cultural resistance but benefited from financial support, technological advancements, attention to audience needs and a professional culture that emphasises flexibility.

Discussion and Conclusion

This study sheds light on the evolving role of media labs as strategic hubs of innovation within journalism, and as drivers of change, particularly in the face of ongoing structural, financial, and credibility crises affecting news organisations. Far from being solely technological incubators, media labs have emerged as flexible and interdisciplinary spaces that support the reimagination of journalism's practices, narratives, and infrastructures (Zaragoza-Fuster and García-Avilés 2024).

Media labs are increasingly seen as proactive responses to industry-wide disruption, which our results illustrate. They serve not only to experiment with tools and formats but also to reestablish meaningful connections with audiences through new narratives and services (Bisso Nunes, Mills, and Pellanda 2022). Their value lies in their capacity to nurture experimentation beyond the confines of day-to-day production routines, encouraging long-term thinking about journalism's future (Bisso Nunes and Mills 2021). This study identifies three core typologies of labs, namely (1) creative-driven, (2) business-oriented, and (3) educational. Each of them is aligned with specific goals: fostering storytelling innovation, pursuing monetizable products, or advancing media literacy and internal knowledge-sharing.

A central insight emerging from our findings is the crucial role of organisational and cultural integration in determining a lab's success. While lab structures vary—from dedicated departments to hybrid teams—those embedded within the wider newsroom culture and operations tend to have a greater impact. A recurring theme among interviewees was the importance of fostering a collaborative ethos that encourages autonomy,

flexibility, and cross-functional teamwork. These elements were consistently associated with environments where innovation could flourish and be scaled. Conversely, labs operating in silos or facing resistance from other departments often encountered limitations in expanding their influence or mainstreaming their innovations—confirming similar findings in prior studies (Hogh-Janovsky and Meier 2021; Zaragoza-Fuster and García-Avilés 2024).

Media labs contribute to innovation in diverse and layered ways. Beyond technological advancements, their projects encompass procedural, editorial, and narrative shifts—ranging from data-driven storytelling and new business models to experiments in distribution and audience engagement (García-Avilés 2021; Meier et al. 2024). These innovations are not ends in themselves but are instrumental in enhancing the broader value of the news brand. Labs, therefore, serve dual strategic purposes: delivering practical tools and formats while reinforcing the outlet's identity as a forward-looking, adaptive institution.

Projects across the labs studied include the development of digital platforms, tools for younger or underserved audiences, in-house training modules, and collaborative ventures within the media sector. Educational labs, in particular, play a unique role by prioritising internal capacity-building—critical for preparing organisations to respond to long-term societal needs like democratic participation and media literacy.

Perhaps one of the most significant findings is that labs function as catalysts for a broader culture of experimentation and innovation. The sandboxes create “safe zones” for exploration, where interdisciplinary teams can ideate, test, and refine bold approaches to journalism. In other words, labs become spaces where risk-taking is not only permitted but institutionalised—whether through data journalism, the use of AI, or novel content formats. This positions them as both practical solution-generators and symbolic statements about the kind of journalism their parent organisations aspire to practice.

Labs also offer reputational benefits, helping organisations win awards, attract talent, and gain visibility in the broader media landscape. More than isolated units, successful labs act as sensors for detecting both internal and external trends, contributing to strategic foresight and institutional agility.

Despite their promise, the long-term viability of media labs is far from assured. Financial limitations, misalignment with core organisational goals, and cultural resistance—particularly in Southern Europe—continue to hamper their potential. Sustained support from leadership, resource investment, and clear innovation mandates are essential to avoid labs becoming peripheral or short-lived.

Labs in our study that adopted open innovation models and cultivated partnerships across academia, civil society, and tech industries exhibited greater resilience. These collaborations not only diversified their knowledge base but also extended their reach and impact. This study acknowledges its methodological limitations, particularly the reliance on self-reported interview data, which may be subject to bias or selective framing. Future research could enhance validity through quantitative analysis, ethnographic observation, or longitudinal case studies. Comparative research across diverse media ecosystems—especially outside the Global North—could further illuminate how cultural, regulatory, and economic contexts shape the function and success of media labs.

In addition, exploring the integration of emerging technologies such as generative AI, as well as the dynamics of external partnerships, could yield valuable insights. Investigating how labs maintain adaptability and impact over time remains a key research priority—especially as the journalism industry continues to confront uncertainty, fragmentation, and accelerating technological change.

Finally, this discussion must be situated within broader civic society. A paradox is increasingly evident: While the media serve as a cornerstone of European democracies, they face intensifying economic pressures—stemming from unstable revenues and costly technological investments, among other factors—as well as mounting concerns about both citizen distrust and political enmity. The growing political hostility towards the press in the United States is increasingly echoed across the North Atlantic, influencing European policymakers. The role of political support—whether through legal frameworks or funding mechanisms—will be a decisive factor for the future of journalism. And a successful digital transformation process for European media, with a permanent inclusion of success innovations into journalistic workflows, will in turn be of increasing importance for European democracies.

Note

1. In one case, two representatives from the same institution participated in the interview.

Author contributions

CRediT: **Giulia Ferri**: Investigation.

Ethics Approval

This study was approved by the Ethics Review Commission of (university withheld).

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