3 Identifying innovation

A new typology for the creative industries

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Why do we need a new innovation typology?

The OECD's *Oslo Manual* defines an innovation as: "a new or improved product or process (or combination thereof) that differs significantly from the unit's previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process)" (OECD & Eurostat, 2018). But the OECD definition of innovation, while valuable, struggles to capture the full spectrum of innovation types in the creative industries. So, for example:

- A theatre troupe might continuously refine a production over multiple seasons. While these refinements tend to be gradual rather than radical, the iterative nature of this process leads to a constantly evolving experience that challenges the "new or improved" aspect of the definition.
- Virtual Reality (VR) experiences can transport users to new worlds or historical periods, creating a sense of novelty through immersive storytelling. But the innovation is as likely to be about narrative as it is about technology, making VR experiences difficult to quantify within the OECD framework.
- A game developer creates a mobile app that combines entertainment with educational elements on climate change. The innovative element here is the creation of a novel learning experience with a social purpose.
- In television, some of the most valuable intellectual property is around new formats, which can be licensed to be remade in other countries. New formats, while partly derivative (as much innovation is), may not involve innovation as described above at all.

These examples show the extent to which innovation in the creative industries can take a variety of forms that are usually not captured by existing typologies. There is still a lack of understanding of the relationship and

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interdependence between different kinds of innovation and the creative industries (see also Chapter 1). It is also important to consider what constitutes innovation in the creative industries to understand different innovation types. And, these distinctions between the creative industries and other industries mean that the kinds of innovation that creative industries businesses and employees undertake differ in significant ways.

The purpose of this chapter, building on Chapter 2, is to provide a new typology of innovation in the creative industries. The new typology was developed following an analysis of interviews with 68 freelancers or businesses, funded and supported by Clwstwr to conduct R&D, as part of UK's CICP (see Chapter 1 for more details about the methodology). We begin with a literature review of existing typologies of innovation and an analysis of their limited applicability for the creative industries. This informs our findings, which enable us to present a new typology for innovation in the creative industries. Finally, we discuss how this new typology can impact creative businesses, future research, and policy.

Innovation types and classification systems

The development of innovation types and classifications has become a central focus of academic inquiry (Chandy & Prabhu, 2010; Cinar et al., 2024; Garcia & Calantone, 2002; Knüpling et al., 2022) and policy development (OECD & Eurostat, 2018). To navigate the concept of innovation, researchers and practitioners have devised various typologies. These range from simple labels like 'radical' or 'incremental' to more elaborate typologies that differentiate innovation types or identify distinct profiles of innovators (Knüpling et al., 2022). Authors have stressed a lack of consistent dimensions for constructing an understanding of innovation and different types of innovation (Garcia & Calantone, 2002). Available classifications of innovation have been also criticised for their lack of coherence and consistency across existing frameworks (e.g. Schartinger et al., 2022).

For example, the OECD's *Frascati Manual* (OECD, 2015) divides innovation into three categories: fundamental, applied, and experimental development (see also Chapter 2). This classification is largely based on how close research is to being used in a commercial setting. Kovacs et al. (2019), following a systematic literature review, proposed using novelty and impact to categorise innovation. While these dimensions are useful for creating quantifiable measures of innovation, it has been argued that they don't fully capture the nuances of all types of innovation (Knüpling et al., 2022).

The overarching aim of these typologies is twofold. First, they aim to bring clarity and structure to innovation. By categorising innovation based on specific characteristics, researchers can identify patterns, analyse

trends, and conduct comparative studies (Cinar et al., 2024). Second, these typologies serve as practical tools. Policymakers can leverage them to design targeted support structures for different innovation streams, while firms can utilise them to develop innovation strategies tailored to their specific goals (Knüpling et al., 2022). The data and research underpinning innovation classifications typically stem from a range of sources, including innovation surveys, patent analysis, and bibliometric studies. Additionally, sector-specific reports and case studies can provide a deeper understanding of innovation dynamics within industries.

To our knowledge, no studies have yet attempted to characterise innovation in the creative industries (see also Cinar et al., 2024). This is partly because the creative industries display unique characteristics (especially in contrast to the science and technology sectors) and because they have only become central to innovation policy comparatively recently (see also Chapter 1). We can identify various problems with existing typologies of innovation in the creative industries.

1 Current classifications tend to overemphasise a purely linear conception of novelty. As discussed above, the degree of novelty for creative industries' services and products is difficult to grasp but important. Creative industries thrive on an iterative process where creators continuously refine and adapt their work based on feedback, trends, and evolving cultural contexts. This iterative approach is fundamental to creative practices (see also Chapter 2). In the creative industries, dynamic processes of creativity and the often-essential role of end-users are central throughout all production (and not only to innovation). This iterative approach, highlighted by Wölbling et al. (2012), is pivotal. But, in the creative industries, innovation can also be manifested through incremental improvements, reinterpretations, or novel combinations of existing elements (Gustafsson & Lazzaro, 2021). This makes an emphasis on novelty – particularly in its linear forms – sometimes difficult to operationalise in creative industries' innovation.
2 Existing typologies often see innovation only through the lens of technological advancement – while creative industries innovation encompasses various other forms. So, for example, innovation is measured typically through an index of 'technology readiness levels' (see also Chapter 2). Technological advancements certainly play a role in creative industries' innovation (e.g. digital music production or 3D printing). But innovation in the creative industries can include aesthetic innovation, cultural reinterpretation, and creative expressions, for example (Snowball et al., 2022). These forms of innovation are often intangible. Indeed, Miles and Green (2008) argue that in the creative industries, so-called 'hidden' innovations are much more common, making them distinct from more tangible technological innovations.

This includes, for example, innovation in organisational forms or business models and novel combinations of existing technologies and processes to produce creative outputs. Hence, in Chapter 2, we suggest replacing Technology Readiness Levels with a much broader term, such as Output Readiness Levels.

3 As we have suggested in Chapters 1 and 2, the current forms of language used to classify innovations are often a barrier for the creative industries. For example, the *Frascati Manual* relies on language rooted in scientific and technical contexts derived from STEM (science, technology, engineering, and mathematics) skillsets and related product markets (OECD, 2015). When Lomas (2017) analysed how the *Frascati Manual* might be applied to arts and culture, she found various terms used in the innovation survey by the OECD, and its studies are either not understood or cannot be applied to innovation in arts and culture. For example, there are rarely R&D-related roles or positions or dedicated spending on R&D in arts and cultural organisations – even though activities leading towards innovation in the creative industries can be classified as R&D. When applied to creative industries, this language may not resonate with the diverse actors, including artists, designers, and cultural practitioners, who contribute to innovation in these industries. Since policy funding and support are also often based on such terminology, this works to exclude creative industries organisations.

4 The focus on quantifiable outputs and measurable R&D activities in existing classification frameworks often overlooks the creative processes, social impact, and cultural value generation that are central to innovation in the creative industries (Gustafsson & Lazzaro, 2021). While economic growth (also driven by creative industries' innovation) has measurable indicators, it is much more difficult to quantify cultural and social values. Furthermore, metrics like patents or research publications are less relevant for creative industries. Innovation in creative industries often occurs through tacit knowledge, cultural expressions, and collective practices. The OECD, for example, measures R&D intensity based on the ratio of R&D expenditure to an output measure (Galindo-Rueda & Verger, 2016). However, most creative industries organisations don't classify R&D expenditure. The social and cultural value generated by creative innovation often defies easy quantification, leading to a significant underestimation of the creative industries' innovative capacity.

5 Finally, traditional innovation classifications are mostly rooted in explicit knowledge and therefore struggle to account for the intuitive and experiential dimensions of creativity and the learning involved. Creative industries thrive on tacit knowledge, which can include, for example, insights, intuition, and craft-based skills (Snowball et al., 2022).

These aspects are often difficult to codify or express explicitly. The collaborative nature of innovation is also difficult to grasp through existing classifications but is crucial for innovation in the creative industries (Gustafsson & Lazzaro, 2021).

In summary, we need to develop a new approach to classifying innovation in the creative industries that appreciates the context-specific aspects. By acknowledging the unique needs of innovators in the creative and cultural domain, we hope to develop a new understanding of innovation in the creative industries, supporting researchers and policymakers to encapsulate the complexities when designing innovation frameworks for the creative industries.

An innovation typology based on R&D processes

The two axes of R&D: Direction and degree of learning in innovation

In order to create a novel innovation typology for the creative industries, we analysed the interviews through a qualitative coding process. The analysis revealed that innovations in the creative industries can be best classified in terms of the R&D processes the creative industries projects go through in order to innovate. This enabled us to group the analysed projects across two opposing poles and two axes identifying the R&D process (Figure 3.1). The first axis describes the degree of pre-defined determination or R&D direction, which can rank from a highly focused and goal-oriented to a more open-ended and exploratory R&D process. The second axis describes the degree of learning throughout the R&D process, which ranges from refining existing knowledge and applying it to solve specific problems to acquiring new knowledge with the potential to open up completely new (and hitherto unknown) opportunities.

Our analysis enables us to score the R&D direction of each project in the creative industries on a scale from 1 (structured – representing the lowest level of flexibility and openness of the R&D process) to 4 (exploratory – the highest level of flexibility and openness of the R&D process). For the vertical axis – the learning curve achieved while conducting R&D – we compared the narratives used by interviewees against a specific question that asked them to assess the upskilling process of their teams while running the project. Where quantifiable data was not possible to obtain (17 out of 68 interviewees could not quantify their answer to this specific question), we used qualitative data generated from the graph narratives to score the levels of learning obtained during project implementation.

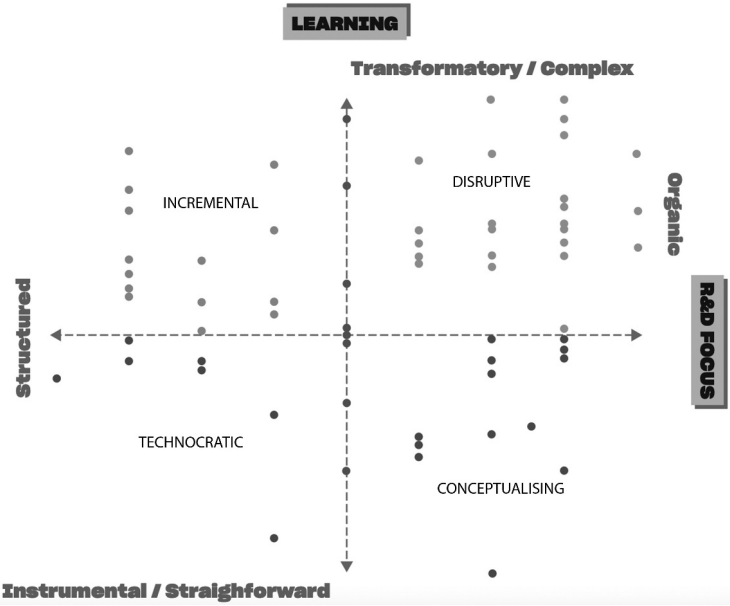

Figure 3.1 Types of innovation in the creative industries based on R&D processes.

The intersection of the two axes gave rise to four areas that define four different types of innovation in the creative industries, which can be graphically represented through a bubble graph (Figure 3.1). In the following section we describe the graph structure and the four types of innovation in the creative industries emerging from it. We give examples of each type of innovation through specific case studies of innovation projects.

1 ***Direction of R&D: Structured vs. exploratory***
The direction of R&D refers to the level of structure and discipline applied to the R&D process. Clwstwr's R&D projects showed various degrees of this and can be broadly differentiated into two groups. On the one hand, projects followed a set of structured R&D processes. This aligns with the concept of 'closed innovation' (Chesbrough, 2003), where R&D activities are primarily internal and tightly focused on addressing specific challenges. Here, the direction of R&D is predetermined and closely monitored. Research by Enkel et al. (2009) suggests limitations to this approach, as a purely exploitative approach in innovation management can lead to competency traps, where a focus on refining existing knowledge can hinder the exploration of new

creative territories. Hence, this kind of R&D process focuses on efficiently executing a predetermined vision, potentially utilising established production techniques and materials. It emphasises the exploitation of existing knowledge to create commercially viable products that cater to a well-defined target market.

A good example of how this kind of R&D works is provided by Bumpybox, a company funded by Clwtwr to explore how the efficiency of animation pipelines could be improved in order to grow the value of IP. The projects implemented by Bumpybox show an iterative and structured R&D process where small technical elements are being explored and tested out in a closed environment. The project manager of Bumpybox explained during the interview how the R&D process functioned:

> We've never done any R&D before, especially what I would call funded R&D (…). The premise of our project was that we were trying to make these animation shows, but were not getting much in terms of any other kind of licensing deal and the shows weren't expanding beyond TV. What we were trying to do is identify what we need to do to make our shows start to edge towards that with less funding. (…) So what we need to be doing is making this sort of brand appropriate and having material to show on the Internet, on social media, send prototypes to companies, while we're actually in production. So it was the first sort of line where it fully met expectations with the seed funding, because we tried lots of different things, and they all basically worked as we intended (…). We were trying lots of different small things and each had a success to it and that's why it met expectations, because we were in line with what we already knew we wanted to explore. That was pretty straightforward R&D where we tried all these things that were going by default. (…) Then we started our second project, where we were looking at the use of Metadata. Here, the major roadblock we had was that the amount of metadata that you needed to become useful is basically more than the material we had. We followed that sort of R&D path and exploration, which wasn't a failure because it works. We've implemented it in our pipeline, we've got the code for it, but at that moment what it needed to do or prove, it didn't really work. We then switched to one of the other elements of our R&D which was the use of Unreal Engine. It really opened a few doors and that's why it fully met expectations at the end.

For Bumpybox, this approach clearly delivered the kind of innovation they needed. For other Clwstwr projects, it was important to maintain high levels of exploration and flexibility in their R&D process.

They followed more open-ended R&D processes that were more exploratory and less rigidly structured. It allows for 'open innovation' (Chesbrough, 2003), where external knowledge and collaboration play a role in the R&D process. This openness can lead to the discovery of unexpected opportunities and the emergence of entirely new creative forms. The openness of the R&D process aligns with the concept of user-centred design (Von Hippel, 2005), where user needs and feedback heavily influence the innovation journey. In the creative industries, this can involve incorporating audience expectations and feedback into the R&D process, potentially leading to the development of more innovative and engaging creative experiences. Research by Gassmann and Schweitzer (2014) suggests that open innovation approaches can be particularly beneficial for radical innovation within creative industries. At the same time, there can be high rates of failure.

A good example of this type of R&D is provided by a freelancer working on a Clwstwr project, whose project focused on using a hybrid narrative, a new approach to filmmaking that combines illustration, graphic design, propaganda poster-style art, and live-action drama to improve the sustainability of filmmaking. The R&D process in this case was open-ended and more exploratory, enabling unexpected impacts to emerge. During the interview, the project lead explained this kind of process:

> I was looking at piloting something and trying a different way of making something. (…) I think that distinction between content creation and innovation is the way that the R&D community and the creative community might view each other with scepticism. I think the reality is actually a lot more blurred between them, and you can have stuff that is much purer content creation, but there is a place between them both where you know the material created points towards a new way of working in a new way of doing things. I think it's quite hard sometimes, for content creators, and the funders of content to naturally see the match between what could be purely technical R&D. So if there is content within it, and you get a sense of that, then all of a sudden it opens a lot of doors to show the potential of whatever is being done (…). Another big revelation was that the process is not about failure. It doesn't matter if the idea doesn't work out the way I thought it would, or if it leads somewhere else, because it's about what's discovered. This is very important in a field like film, which is highly judgmental and risk averse.

2 ***Learning through R&D: Incremental vs. discovery***

The level of learning throughout the R&D process, as identified in the creative industries' innovation projects we analysed, captures the extent

to which knowledge acquisition and refinement occur throughout the R&D process. Existing innovation literature differentiates between incremental and radical innovation (Anderson & Tushman, 2018), with the former focusing on improvements to existing products or services and the latter involving significant departures. While our typology acknowledges the potential for novelty in the outcome, it primarily focuses on the R&D process itself, particularly the level of learning throughout the process.

One end of the spectrum is characterised by a focus on refining existing knowledge. This aligns with the concept of exploitative learning (March, 1991). Here, the R&D process emphasises leveraging established knowledge and expertise to optimise existing practices and enhance efficiency. This approach prioritises the exploitation of existing knowledge for efficient problem-solving and product development. Research by Cohen et al. (2000) suggests that exploitative learning plays a vital role in incremental innovation. This aligns well with the creative industries, where many businesses may refine existing creative practices to cater to specific audience needs or adapt to evolving market trends. A good example of leveraging knowledge for product development is *Tunnel Vision*. The project explored how new and emerging technologies can enhance the public transport passenger experience, through the delivery of audio, video, and text content that is geospatially and contextually aware of passengers' needs. The manager of the project explained how the R&D process worked and the type of knowledge applied to develop the service prototype:

> The process involved two areas of research: The technical track looked at the state of technology regarding the provision of geo-contextual data to a train, and forecasting where the technology was going to go. The audience track looked at what the different audience needs are on trains in Wales – what the best way to serve passengers is and what they'd want. The technical track began by looking at who operates trains in Wales. We also looked at WiFi provision in stations and the uptake of digital ticketing. The audience track involved talking to passenger transport groups in Wales. We did some interviews and then some focus groups with commuters and leisure travellers to understand what they'd most be interested in. We found that it's possible to provide contextual content to Wales' trains, but the technology is suboptimal. But then we've obtained a big insight that could be the basis of a very different business and shifted our research focus. Because of COVID, train travel will move into digital ticketing. And the insight that came from the research is that the railway ticket is going to tell you if someone is going to move from and to at a certain time of the day

> and I could offer you some sizzle products relevant to your trip whether that is discounted lunches or two for one tickets to the cinema or concert venue. It was about the fact that digital ticketing plus mobile devices can create a more spatially aware advertising environment.

The other end of the spectrum emphasises identifying and acquiring new knowledge with the potential to open up entirely new creative possibilities. This aligns with the concept of exploratory learning (March, 1991). Here, the R&D process prioritises experimentation, discovery, and venturing into uncharted creative territory. This approach prioritises the exploration of new knowledge domains with the potential to revolutionise existing practices and even redefine, for example, audience expectations. Research by Hardy and Dougherty (1997) highlights the importance of learning for radical innovation. By venturing into uncharted territory and acquiring new knowledge, creative industries can foster the development of entirely new creative forms that disrupt existing markets and redefine the boundaries of their respective industries. The project Aomame represents a good example of an explorative R&D process based on a steep learning curve. The project explored what art online might look like if it utilised existing technologies more imaginatively and avoided simply replicating the physical gallery experience. The manager of Aomame explained how the R&D process worked and how intensive learning and pushing the limits of the possible was an important component in trying to revolutionise the exhibition of online art:

> The learning curve was extremely steep, but that's the point of the project, to expose ourselves to this very steep learning curve and then respond to it. The best way to do that is with a practical project. So that's what we did. What we're doing is we're mixing the art world with the computer game world: two different ecosystems coming together that neither understand each other, nor have any engagement with each other. The difficulty is that there is no crossover in these areas. This was the challenge. It was a challenge, and it's something we're still addressing now. (…) I could see the potential in the project. I could see that and I was going to try and turn it into a business, and I could see also that there was immense benefit from learning the skill set and getting involved in this world, having this opportunity. (…) It allowed me to press down the knowledge I had acquired, and actually put it into application again, so that, although it was like a baptism of fire, it means that I can now develop these kinds of things. The learning was reinforced.

The four archetypes of innovation in the creative industries

Based on the two identified axes, representing the direction of R&D and the depth of learning, we have developed a typology of creative industries innovation. This typology identifies four distinct archetypes of R&D-driven innovation within the creative industries: (1) technocratic, (2) incremental, (3) conceptualising, and (4) disrupting.

1 ***Technocratic innovation: Exploitative Learning within a Structured R&D Framework***
Technocratic innovation represents the most structured and focused form of innovation within the creative industries. This resonates with the existing concept of exploitation-oriented innovation (Van de Ven & Ring, 2006), where the primary goal is to refine existing knowledge and apply it to solve well-defined problems. Technocratic innovation in the creative industries primarily engages in exploitative learning (March, 1991). They leverage their established knowledge base and expertise to develop solutions for pre-defined challenges within the creative industries. Technocratic innovation can be compared to solution-oriented innovation (Oberländer et al., 2021), focusing on the specific needs of the creative industries.

Case study: FIELDWORK

The aim of Fieldwork's feasibility study was to explore the application of digital design capabilities in promoting original artworks. The goal of live gallery visits is to give people a personable experience of artworks, connect with artists, and posit new perspectives. The project thus explored the potential for transposing such a live experience through digital means. The new digital solution/platform should enrich public interaction with art and artists, through purchases, enhancing the livelihoods of the creative practitioners making the works. In doing so, the project aimed to put the interest of independent artists at the core of the platform that combines the best interests of multiple service providers (the artists) with the interests of the users (buyers) via an experiential, digital interaction. As a result, the end platform could join the dots between the public and private sectors, drawing on the strengths of both, to build economic and cultural gains.

The R&D process was a structured one, framed by a concrete context provided by digital solutions applied within the artwork field, which could communicate the story of handmade products

to potential buyers using an innovative digital design. Established knowledge around digital forums and applications for selling artworks was being leveraged in order to meet users' and product providers' expectations. What was being researched is the potential layers of interactivity that these digital solutions could offer to tackle the challenge, as well as what a commercialisation model of a potential new digital solution/platform could look like.

The research methods deployed for this were straightforward: desk research was combined with interviews conducted with sector specialists and potential co-producers. A lot of research already done consolidated the thinking of the main professionals involved in this project. However, the acquired knowledge left the impression that only the surface of the analysed problematic was being scratched. Therefore, managers had to make important decisions and steer research to keep it contained and heading in the desired direction. The feasibility study illustrated that there is, still, an appetite for providing and running a platform. However, it also underlined that sustained time and financial investment are needed in order to bring the idea from a conceptual to a real marketable product.

In terms of the learning curve, although the desk research was substantial, it consisted in opening up knowledge about a sector in which the company did not have specific expertise: the digital solution sector applied to the art world. This means that already existing information and knowledge were gathered in order to be able to make informed decisions about the potential solution. Learning was therefore more exploitative than explorative. In practical terms, this meant that the project did not reach the level of defining the specifics of a digital platform, but focused more on uncovering the ethos, tone, aim, and potential functionality of the platform. Learning took place in a context in which the development of digital communication solutions applied to the creative industries is not new. Different models of platforms for artists such as Etsy, Zazzle, Artalistic, and so on already provide real solutions for the art market. How to expand the limited interaction possibilities of such platforms and make them more inclusive and representative of artists' interests represents a pre-defined problematic within the creative sphere, which the feasibility study aimed to tackle by looking at the specifics of the Welsh art market and looking at how the platform could represent artists and manage the connections and logistics for them, in order to provide greater economic potential for their creative practices.

2 ***Incremental innovation: Exploring New Applications within a Structured Framework***

Incremental innovations share some similarities with technocratic innovation through the application of a structured R&D approach. However, such innovation incorporates a limited degree of exploration within this framework. This aligns with the concept of architectural innovation (Henderson & Clark, 1990), where existing knowledge is applied to new contexts or markets. Incremental innovations engage in a balanced approach between exploitative and exploratory learning. They leverage their existing knowledge base while also venturing into new application areas. Incremental innovation differs from exploratory innovation (Lichtenthaler, 2009) in the limited scope of their exploration. While exploratory innovation actively seeks entirely new knowledge domains, incremental innovation primarily focuses on applying existing knowledge to new contexts within the creative industries.

Case study: AMPLYFI

AMPLYFI is a Welsh company developing ways of gathering data through AI, deep search, and other advanced technologies, enabling their clients to gain new insights. As part of their Clwstwr-funded project, AMPLYFI explored how AI could help journalism tackle some of the daily challenges in terms of big data and validation of sources. The company worked closely with journalists to use machine-learning and natural-language-processing capabilities to develop a tool to support story research by making connections between topics, people, organisations, and locations from across millions of documents. A key focus of the project was to ensure that this technology could be applied to a journalism use case and to increase the usability of the tool. As such, the product development took a user-centric approach, involving those with journalism experience wherever possible.

The R&D process was structured and well-defined. This included a design probe workshop and user testing sessions, as well as more informal and continuous feedback. The project pulled together an editorial board of key influencers in the local media ecosystem, which included people from JOMEC (Cardiff University's School of Journalism, Media and Cultural Studies) and people with links to the media. Their task was to challenge the project and help meet

journalists, editors, and others working in the industry. The project also built a user community of around 40 active journalists from across the industry, most of whom were from Cardiff. User group interaction took place through workshops and one-to-one conversations. These approaches uncovered what it's like to be a journalist, the problems they face, which mundane daily tasks take up valuable time, what tools they use, and what the pain points are. It indicated the possibility of creating a tool that would take some of those time-heavy elements away from journalists so that they could focus on information gathering and writing. These provided critical feedback and analysis on the usability of the platform and the information it contained.

The final part of the project allowed them to address some of this feedback, significantly altering the User Interface and connecting to new and different sources. Applying existing knowledge about AI and machine learning to a new context such as journalism was fundamental in exploring new possibilities that speed up the time it takes journalists to find reliable and relevant facts and sources.

The learning process was a consistent one, leading to four different user journeys and scenarios for product development. Each journey was scored on things like how commercial the idea is, how realistic the development roadmap is, and how closely aligned it is to what the company is already doing. The process helped to choose the most viable option for the next phase. Acquired knowledge and insight brought together new developments with AMPLYFI's existing capabilities in machine-learning, natural-language processing, User Interface, and backend processing infrastructure.

The entire learning process provided a better understanding of and deeper insight into the journalism sector. Moreover, the follow-up funding enabled the creation of a beta product representing an entirely new potential product for AMPLYFI in an entirely new sector. Learning how to prioritise research findings based on the key use case, while maintaining the rest of findings for future consideration, represented an important step in the research process. Gathering more information and data from journalists about their use cases helped to reinforce and further define many of the aspects of the beta version of the product development roadmap. Despite leaving areas for improvement, the project developed a functional tool that enables journalists to better interact with data and information.

3 ***Conceptualising innovation: Exploitative Learning Fuelling Open-Ended Exploration***
Conceptualising innovations represents a shift towards a more open-ended and exploratory approach to R&D. They break away from the structured framework, embracing a knowledge-based form of investigation that aligns with the concept of open innovation (Chesbrough, 2003). This openness allows for collaboration with external knowledge sources and the exploration of entirely new creative possibilities. However, unlike disruptive innovation (discussed below), conceptualising innovation relies heavily on exploitative learning, leveraging their existing knowledge base as a springboard for exploration.

Case study: Film Hub Wales

Film Hub Wales (FHW) supports organisations that screen films, with the aim of bringing the best British and international films to audiences across Wales and the whole UK. FHW is part of a UK-wide Film Audience Network, consisting of eight hubs funded by the British Film Institute. It leads the UK Inclusive Cinema strategy on behalf of the network. Their feasibility project, funded through Clwstwr, aimed to explore the idea of Welsh film branding. The main challenge addressed by the study was thus to see if it was possible to find ways of increasing awareness of the Welsh film industry by building a brand around it.

The R&D process behind the project was an open-ended and exploratory one. It involved collaboration with external specialists – such as, for example, a Wales-based research company, a university, and an arts centre. These provided both research expertise and practical knowledge and experience in topics such as brand testing and the exploration of identity perception. The R&D process was thus structured in parallel phases and involved a mix of methods designed to answer the research question.

The first stage involved researching perceptions of Welsh identity. The analysis of the research question also indicated the need to organise a workshop involving 20 screen industry partners (screen agencies, distributors, filmmakers, etc.) to find out how a Welsh film brand might support their organisations. Next, hired experts worked on brand perception issues. The devised method consisted of a focus group testing of artwork for the hypothetical brand by students. Finally, three case studies from international territories

representing best practices in the film branding industry (Screen Ireland, Telefilm Canada, and the Swedish Film Institute) were identified and analysed. The mix of methods enabled work on the research question from multiple and complementary perspectives, which broadened the adopted perspectives and enriched the outcome of the feasibility study. An 80-page final report accompanied by an infographic stands as a testimony to the value of the research.

The learning base for the feasibility study relied much on external expertise. Therefore, new knowledge was acquired indirectly, through commissioned work, rather than representing first-hand experience. Leveraging the knowledge base of multiple areas of inquiry – research practice, branding, and identity perception – the feasibility study was able to not only compile an informed report but also provide deep knowledge and inspiring examples of how Welsh film branding could be more innovative. The mix of methods ensured a crossover of varied and complex sets of knowledge that fused into a comprehensive approach to building an innovative Welsh film brand identity. However, the learning process leveraged existing areas of knowledge without reflecting upon, questioning, or experimenting further with findings, like, for example, the case of exploratory learning.

4 ***Disruptive innovation: Pioneering New Knowledge through Open-Ended Exploration***

Disruptive innovation represents the most adventurous and unpredictable innovation within the creative industries. The R&D approach is characterised by high levels of uncertainty and a commitment to exploratory learning. Disruptive innovation embraces open innovation (Chesbrough, 2003) to its fullest extent, actively seeking out external knowledge sources and venturing into entirely new creative territories. This aligns with the concept of radical innovation (Anderson & Tushman, 2018), where innovation disrupts existing industry norms and potentially leads to paradigm shifts.

Case study: Monnow Media

Monnow Media is a media production company led by a freelance journalist that works on investigative journalism, production, editing, drone filming, and technology training. The project led by

Monnow Media and funded through Clwstwr aimed to explore radical new ways of doing journalism, one that does not operate top-down where journalists decide what people need to know, but rather bottom-up through audience perceptions and needs. By moving away from personalities and opinions and starting to present facts with context in an accessible, useful, and interesting way, the project explored innovative ways of presenting news.

The R&D process was open-ended and highly experimental. It combined multiple approaches and methods for reaching a model of presenting news in radically new ways. The iterative research process included: researching the concept of storytelling through a combination of literature review and interviews about storytelling as a way of connecting to audiences; exploring how journalistic values need to shift through a focus group with people from ethnic minorities; creating new building blocks for journalism by analysing collected data and identifying the main building blocks that need to shift in journalism (narrative structure, content, context, the agency of users, the tone of the writing, diversity, inclusion and transparency about how the news is made) and proposing a view of journalism that shifts these approaches; constructing seven working prototypes from the building blocks and testing these with over 1,200 users; refining the best prototype based on user feedback.

The freedom to design each research step based on the findings of the previous one, while also continuing to deepen and refine steps even after their development and revealing invisible links between these, was essential in setting up a flexible research process that represented a gateway to new possibilities in narrative journalism. The most successful prototype in user testing was the so-called newly developed 'narrative accordion' – a branching, collapsible way of telling stories online that went beyond the hierarchical, inverted pyramid format that journalists typically use (that puts the most important facts of news at the top with further news details then becoming gradually less important). The follow-up funding for the project explored how to overlay these new storytelling techniques onto artificial intelligence-based content creation models.

The learning process was steep and profound. The knowledge base built through the different research phases has generated a pool of expertise that has raised Monnow Media's profile. In addition, the project opened unexpected avenues for the Welsh journalism sector, putting Wales on the map of journalism innovation. In aligning with an open R&D model and an explorative learning process, the project ended up being something much deeper than

expected, which explored the fundamental purpose of journalism and how to reach younger audiences, aligning fully with the purpose of radical innovation which is deeply transformative. The novel approach to presenting news asked questions and pulled apart the traditional inverted pyramid, forcing journalists to take a step back from how they write things and look at how to make news online engaging and meaningful in a playful and accessible way. As a result, the R&D process developed transformative ways of conducting journalism.

Conclusions

Our analysis has allowed us to develop a typology of R&D-driven innovation within the creative industries. This typology, built upon the direction of R&D and the depth of learning, sheds light on the diverse innovation journeys undertaken by creative businesses. Importantly, the framework identifies four distinct types of innovation: technocratic, incrementing, conceptualising, and disruptive. Recognising the value of each is crucial for fostering a multilateral and diversified innovation capacity within the creative industries.

Technocratic innovation provides stability and efficiency by addressing well-defined challenges. Incremental innovation offers progressive improvements and explores new applications for existing knowledge. Conceptualising innovation pushes boundaries and explores new creative forms, often leveraging existing knowledge as a springboard for the discovery of new creative endeavours. Disruptive innovation acts as a catalyst for radical change, venturing into uncharted territory and potentially revolutionising the creative landscape. We argue that the co-existence of these approaches ensures a balanced innovation ecosystem within the creative industries, fostering both refinement and exploration, as well as continuity and disruption. The developed framework offers possibilities for various stakeholders within the creative industries.

1 Creative businesses can utilise this framework to self-assess their desired innovation type and identify areas for improvement. By understanding their position on the spectrum, businesses can make informed decisions about resource allocation and collaboration strategies. For example, a business identified as aiming for a technocratic innovation might explore opportunities for open innovation to incorporate user feedback or explore entirely new creative territories.
2 Researchers can leverage this framework to deepen their understanding of innovation within the creative industries. The typology provides

a lens for analysing case studies and conducting comparative research across different creative industries sectors. Additionally, it can inform the development of new research questions and methodologies specifically tailored to the unique innovation landscape of the creative industries.

3 Policymakers can utilise this framework to develop more targeted support mechanisms for creative industries. By understanding the diverse R&D needs of different innovation types, policymakers can design support programmes that cater to the specific challenges and opportunities faced by technocratic, incremental, conceptualising, and disruptive innovation. This can include funding initiatives, skills development programmes, and infrastructure investments that nurture innovation across the entire spectrum.

This framework departs from traditional innovation frameworks that focus solely on the outcome of innovation, such as novelty or economic impact and therefore the often linear conception of novelty applied in policies and academia. By emphasising the R&D process itself, our framework offers several advantages. Firstly, it can be applied to a wider range of creative endeavours. Secondly, it is more helpful for policy frameworks as it allows for the design of support mechanisms that are not dependent on measurable and hard but decidedly blunt indicators. This is particularly relevant for the creative industries, where innovation often manifests in qualitative ways, such as the creation of new cultural experiences or the development of innovative storytelling techniques going beyond technological advancements. The framework presented here underscores the importance of valuing all types of innovation outputs and processes, not just those that lead to immediate commercial success. The exploration and experimentation undertaken by conceptualising and disruptive innovation forms can lay the groundwork for future breakthroughs and contribute to the long-term sustainability and vibrancy of the creative industries. Furthermore, the language applied in this new typology stems from research and case studies directly derived from the creative industries. While it still acknowledges research on innovation from various sectors, the emphasis on knowledge and learning in the framework makes it more accessible to creative industries stakeholders.

Finally, it is important to acknowledge the need for caution when designing support mechanisms for different innovation types. While fostering exploration and experimentation is essential, it is also important to ensure responsible use of resources and mitigate potential risks. The specific support offered to those practising disruptive innovation, for instance, might require a higher degree of flexibility and risk tolerance compared to the support provided to technocratic or incremental innovation. In summary, by acknowledging the full spectrum of innovation through the lens of R&D direction and depth of learning in the creative industries, this framework offers valuable insights for businesses, researchers, and policymakers.

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