1 The cultural, economic and social value of the creative industries

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A brief history of creative industries policy

During the first half of the 20th century, culture became an industry. The growth of cultural forms like popular music, radio, cinema and the press became part of – and subject to the terms of – industrial production. Frankfurt School scholars Theodor Adorno and Max Horkheimer, writing in response to the mechanisation of cultural objects in pursuit of mass markets, were among the first to coin the term 'the culture industry' (Adorno & Horkheimer, 1947). They were writing against the backdrop of what they saw as the twin dystopias of the rise of fascism across Europe and the hyper-commercialisation of culture in the United States (US).

Not surprisingly, the appropriation of 'mass culture' for propaganda and profit created a widespread sense of foreboding. Films like Leni Riefenstahl's *Triumph of the Will* injected fascist iconography with cinematic flair, while the hyper-commercial model of the US television industry produced a cultural landscape that would famously be described (by John F. Kennedy's Federal Communications Commissioner, Newton Minow) as 'a vast wasteland'. Caught between these two versions of mass culture, the Frankfurt School provided a famously pessimistic commentary on the industrialisation of cultural production.

Today, they are best known for their attack on the formulaic limits of capitalist logic on mass cultural forms. They saw cultural, social and economic imperatives pulling in different directions and argued that the logic of the marketplace – with its preference for lowest common denominator, consumerist and formulaic cultural forms – did not always create positive social or cultural outcomes. But some of the Frankfurt School's early work – notably Walter Benjamin (in his 1935 essay, *The Work of Art in the Age of Mechanical Reproduction*) – was more optimistic, deconstructing the aesthetics of fascism while celebrating the more democratic creative potential of popular cultural genres like film.

Benjamin's appeal to a Brechtian, progressive form of mass culture – in which the workings of history are revealed in popular narratives – was,

DOI: 10.4324/9781003481805-1

perhaps, too hopeful for its time. Today, the Frankfurt School is more likely to be associated with Adorno and Horkeimer's gloomier vision of the industrialisation of culture. While Adorno and Horkeimer's critique was radical in some ways – alongside other critics of consumer capitalism, such as Vance Packard and J.K. Galbraith (Lewis, 1990) – like most of their contemporaries they assumed a traditional dichotomy between culture and commerce. This dichotomy became enshrined in a policy distinction between publicly funded cultural forms – free from commerce and seen as having high cultural value – and more commercial, popular culture, generally regarded as having lower cultural value.

This distinction was promoted by cultural arbiters from a range of political perspectives – in the UK from the influential literary critic FR Leavis to the BBC's first Director General, Lord John Reith. While both Leavis and Reith were driven by democratic instincts, they assumed it was the educated middle classes who were best equipped to understand cultural value and to distinguish between 'good' and 'bad' forms of creativity. They wanted to widen access to 'good culture' while keeping a tight hold on the forms it might take. Cultural value became, almost by definition, a counterpart to popular taste: a distinction that was quickly embedded in public policy, whether through Reithian models of public service broadcasting or public funding of the arts (Lewis, 1990).

The cultural theorist Raymond Williams, alongside the Birmingham Centre for Contemporary Cultural Studies (founded by Stuart Hall and Richard Hoggart in 1964), questioned the value system behind this distinction. They argued for a much broader, more inclusive notion of culture and creativity, one that included popular as well as 'high' culture. They developed an idea of culture and creativity based on most people's lived experiences. Cultural activity could not be reduced to an appreciation of a literary canon, fine art or classical music.

Pierre Bourdieu's famous work, *Distinction* (2018), added sociological weight to this more inclusive cultural terrain. *Distinction* used survey data to explore how notions of cultural legitimacy were not based on a set of objective truths. Rather, they were bound up with – and expressions of – social class. Bourdieu argued that this distinction created a system of public legitimation that preserved and protected the tastes of the more privileged sections of society– those who possessed what Bourdieu called 'cultural capital'.

These critiques of the traditional cultural value system – alongside the prodigious growth and ubiquity of the cultural industries themselves – began to change the way we understood art, culture and creativity. By the 1980s the academy was no longer a space reserved for the study and legitimation of the high arts. The growth of the social sciences made it untenable to focus attention exclusively on cultural forms – such as literature, fine art and classical music – that were far less widely enjoyed than most

forms of popular culture. If high culture eluded large sections of society, popular culture had, for most people, become an integral part of everyday life. This laid the ground for the beginnings of a policy shift. For all its democratic desires, traditional arts funding was regressive, in effect (if not in intent) subsidising entertainment for more privileged sections of society (Lewis, 1990).

In the 1980s the Greater London Council (GLC) alongside the Great London Enterprise Board (GLEB) began to imagine what a broader, more democratic cultural policy might look like. GLEB's work was led by Geoff Mulgan and Ken Worpole, whose 1986 book, *Saturday Night and Sunday Morning*, laid out a move away from the more exclusive idea of 'the arts' towards the broader notion of 'the creative industries'. They asked how policy interventions – supporting innovative independent record labels for example – might have positive impacts across this much broader cultural space.

The notion of the 'creative industries' and the importance of popular culture reverberated through the academy, with the growth of cultural studies, media studies and other related disciplines, alongside a broader disciplinary recognition of the importance of the media and creative industries to democratic institutions and everyday life. But the abolition of the GLC, combined with local government cutbacks in cultural funding across the UK, stalled the rise of more sustained creative industries initiatives. On the other side of the world, Paul Keating's Australian Government, alongside a growing Australian cultural industries literature, picked up the creative industries theme. The *Creative Nation* report, published in 1994, made a decisive move away from traditional arts policy towards a more inclusive approach that included film and television, while reframing the Australian creative industries in economic as well as cultural terms (Hawkins, 2014).

This set the stage, three years later, for the 1997 UK Labour Government to embrace a creative industries approach. In a symbolic shift from the old to the new, they replaced the Department of National Heritage (1992–1997) with the Department of Culture, Media and Sport (DCMS). Under the leadership of Chris Smith, the DCMS became emblematic of the new economic landscape of innovation and creativity, technology and the fast-globalising media industries (Hesmondhalgh et al., 2015). This was the age of 'Cool Britannia' when the creative industries were seen as shaping and defining British culture and identity while boosting the UK economy.

John Howkins' (2002) book on *The Creative Economy* and Richard Florida's (2002) essay on the importance of 'the creative class' – as drivers of innovation and economic growth in a digital world – placed the creative industries and creative occupations more generally – at the heart of 21st-century economies. They argued that creativity was a key driver of

prosperity in a world where assets are increasingly bound up with intellectual rather than physical property – in ideas rather than objects (the 'intangible economy'). The creative industries were not only growing faster than other sectors, they were also central to the development of the economy as a whole. The creative economy, in other words, included the creative industries but went beyond them, incorporating creative workers – such as designers and content creators – in most industrial sectors.

The identification – and celebration – of the creative industries as economic drivers coincided with the decline of manufacturing across much of the developed world. Urban areas keen to regenerate – both through a start-up culture and attracting inward investment – embraced the idea of the 'creative city'. Creative cities were imagined as places that sparked innovation and economic growth, as well as being seen as more dynamic and more attractive places to live. Jason Potts and Stuart Cunningham (2008) described this policy shift: "In the past," they wrote,

> policymakers have treated creative industries as a welfare sector or as a sector that has no particular effects on other economic sectors. Evidence now suggests that creative industries may be considered economic growth drivers or, indeed, that they may play an even more strategic role in the innovation system as catalysts of variety creation and facilitators of systemic evolution.
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> (p.10)

In 2013 Nesta published their *Manifesto for the Creative Economy*, making a powerful case for putting the cultural and creative at the heart of government policy (Bakhshi et al., 2013). In the same year, the UK Government, through the DCMS, developed a methodology for identifying the creative industries to capture and measure their economic impact[1] – marking a moment when the creative industries came into being as an identifiable economic category in the UK. The size, scale and growth trajectory of the creative industries was now a demonstrably significant part of the UK (and global) economy: a point made with increasing force by bodies like Nesta, the Creative Industries Council and the Creative Industries Federation in the UK.

In 2017 the UK Government, under pressure to include the creative industries in its industrial strategy, commissioned an *Independent Review of the Creative Industries*. Peter Bazelgette's report was unequivocal, positioning the creative industries at the heart of the UK's rapidly growing digital economy: a sector that was not only a UK success in its own right but with a range of positive interventions across the economy as a whole. One of its strongest recommendations was to support regional creative industries clusters across the UK, with a focus on innovation, intellectual property (IP) and talent development (Bazalgette, 2017). The government

responded by funding the Creative Industries Clusters Programme (CICP), which supported, with industrial strategy funding (through the AHRC), the establishment of nine creative industries clusters across the UK. This move could be seen as a standard part of an industrial strategy, investing in innovation to promote sectorial economic dynamism and growth. But there was a crucial difference. This was the first time the creative industries had been included in a significant Research, Development and Innovation (R,D&I) programme. Following the CICP programme (Lewis et al., 2023) we could see further large-scale investments by governments – led by different political parties – across the four nations of the UK and beyond.

The character, critical landscape and value of the creative industries

The CICP initiative – creating a series of creative industries clusters across the UK, with a remit to use research and development (R&D) to develop new products, services and experiences – was a kind of R,D&I project in its own right. The nine clusters were tasked with introducing R&D (to a sector traditionally excluded from such practices) as a way to boost creative innovation. In so doing, they were addressing a fundamental question: **what is R,D&I in the creative industries?** This book is an attempt to answer this question. Before we do so, however, it is important to sketch out the critical landscape.

The rise of the creative economy in policy terms has been accompanied by an academic backlash against what many see as an uncritical embrace of the creative industries as *no more than* another economic sector. Philip Schlesinger (2017) argues that while the notion of the creative economy has been important politically, it comes at a price: a policy realm where culture is secondary, invariably trumped by the logic of economics. Perhaps the best metaphor for this reductionist way of thinking was articulated by Ronald Reagan's Federal Communications Commission's commissioner Mark Fowler (who oversaw widespread deregulation of the media and communications industries in the US): he described television as no more than a 'toaster with pictures'.

In this critique, cultural values – on people's experiences, identities and well-being – are subsidiary. Any subsidies to support local or distinctive cultures – from film to folk music – could be ruled as a restraint on global, free market competition. Justin O'Connor's 2023 book, *Culture is not an industry*, develops this critique of the 'economic turn' in the creative industries, arguing for a reassertion of cultural values. The uncritical embrace of the 'creative class' as a positive force in economic regeneration has also come under critical scrutiny. The growth of creative cities and the intangible economy has done little to address – and arguably exacerbated – a

growth in inequality (Pratt, 2008; Haskel & Westlake, 2017). The creative industries have become hugely dependent on freelance labour, in many ways defining the rise of the precarious 'gig economy'. While equality and inclusion were always a problem for the traditional arts, this has become true for the creative industries more generally, made worse by a series of employment practices (word of mouth, low pay and long hours at entry level) that limit both access to employment and job security.

This leaves us at an interesting moment when prodigious growth alongside a number of research-led policy initiatives have made the creative industries a compelling proposition for policymakers, while its form and structure have become increasingly subject to critical examination in the academy. Part of the problem – implicit in some of the critical literature – is that the 'economic turn' in the creative industries has been associated with a neo-liberal orthodoxy (see, for example, Leger, 2011), where the purpose of public investment is to drive private profit.

There is a slippage here, where neo-liberal economics is conflated with economics as a whole. While this is understandable in a political context where neo-liberalism has been a dominant force, it is also reductive. To paraphrase: many other economic approaches are available – from neo-Keynesian to a focus on the foundational economy[2] – where economic strategies can be used to promote social, cultural and environmental outcomes. So, for example, investing in strong public service media backed by public-interest regulation produces different cultural and democratic outcomes than countries relying on market forces (Curran et al., 2013).

In this book, we want to move outside these confines. Rather than rejecting the economic turn, we argue that we need to rethink it. Wherever it lies on the complex spectrum between the subsidised arts or the commercial creative industries, most cultural activity needs to be paid for: preferably in ways that are equitable and sustainable. We need economic systems and structures that favour creative activities that provide positive social and cultural outcomes. We also need to acknowledge the importance of both economic and cultural values (Komorowski et al., 2021b). This also means addressing the many ways in which economic conditions shape – or constrain – culture and creativity. If we want a more inclusive, greener creative economy – one that celebrates a diversity of voices, limits environmental damage (Lupu et al., 2023) and generates a strong local tax base for funding public services – we need to develop the economic strategies and systems best able to deliver them.

This is a space where critical scrutiny can inform – rather than run counter to – policy development, based on an understanding of the creative industries that takes account of its history and its complexities (Komorowski & Lewis, 2023). Its size and significance matter, but so does its ability to work for the people it employs, for its audiences and for our broader cultural environment. Economics is inescapable: any cultural

strategy must be underpinned by economic conditions that make it possible.

Despite significant advances, the data picture of the creative industries remains incomplete, for three main reasons. First, because of its dependence on a large freelance workforce, who are excluded from most UK data sets, it is difficult to make accurate estimates of the size of the creative industries. Second, while we have information about the scale of the creative industries (excluding freelancers), we know much less about the size and shape of the embedded creative workforce (creative workers working outside the creative sector). Third, the delineation of the creative industries is neither absolute nor fixed – what is a 'creative industry and what is not?' This is made more complex by the different classifications of the creative industries. UNESCO (Times, Cultural, 2015) establishes six cultural domains: heritage, performance, visual arts and crafts, books and press, audio-visual and interactive media, design and creative services. UNCTAD,[3] on the other hand, defines four domains: heritage, arts, media and functional creations. A more encompassing definition is provided by the UK Government's DCMS: 'Those industries which have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property.' This definition includes the following sectors: Advertising and marketing, Architecture, Design and designer fashion, Film, TV, video and radio, IT, software and computer services, Publishing and Music, performing and visual arts.[4] Creative companies can be either capital intensive or knowledge intensive. In both cases the symbolic and intangible nature of their products is what characterises these companies as creative and cultural (Peris-Ortiz et al., 2019).

To enable data creation and because of its widespread use, we have chosen to adopt the DCMS's definition of the creative industries. This is not without its flaws (so, for example, we might question the inclusion of some parts of the technology sector, as well as the exclusion of a number of creative activities from hospitality to hairdressing), but it allows us to make comparisons with existing UK data sets. The DCMS definition of the creative economy also includes people in creative occupations outside the creative industries (embedded creatives in other sectors, like designers or content creators). So, while the creative industries are a focal point, they are a subset of a larger creative economy, in a world where communication and creative content are an ubiquitous part of work and leisure.

What we do know from these data is that the economic importance of the creative industries in the UK (as in many other parts of the world) is substantial and growing. The latest estimate – at the time of writing – published by the DCMS[5] shows that in 2022 DCMS sectors contributed £169.4 billion to the UK economy. This was 7.7% of the total UK GVA. Creative Industries GVA grew faster than the UK economy both from 2021 to 2022 (9.8% vs 4.4%), and in the longer term from 2010 to 2022 (50.3% vs 21.5%).

The data we have gathered for this book is based on Wales, one of the four devolved nations of the UK. Wales is not untypical of many European nations and regions. As one of the world's first industrial nations, its history is bound up with mining and manufacturing, industries which have been in steady decline since the 1970s. Like many post-industrial places, the creative industries have become increasingly important to the Welsh economy, particularly in the Cardiff Capital Region (CCR) – the ten local authorities around Cardiff (Komorowski et al., 2021a). The creative industries are seen as a priority sector for economic development by both the Welsh Government and regional and local authorities.

While the creative industries are clustered throughout Wales, they are concentrated in and around Cardiff, the Welsh capital and across South Wales.[6] Estimates for 2022 show that there are approximately 10,500 enterprises active in the creative industries in Wales (Fodor et al., 2023). Over the last decade, Wales has seen particular growth in the film and TV sectors: South Wales now has more TV studios than anywhere in the UK outside London, and Cardiff is the UK's third largest film and TV industry employer after London and Manchester (Fodor et al., 2024).

In recent years, the Welsh film and TV sector has produced a range of global titles in high-end TV drama – such as *Dr Who* (BBC/Disney), *Sherlock* (BBC), *His Dark Materials* (HBO/BBC), *Sex Education* (Netflix). It has seen the rise of 'Welsh noir' TV series like *Hinterland* and *Hidden*.[7] It has provided a range of continuing series for UK broadcasters (such as *Casualty*, *Songs of Praise* and *Only Connect*) and is home to one of Europe's largest minority language broadcasters (S4C), making it the UK's centre for bilingual production. But, like many European small nations or regions, it risks being a 'show and go' production centre, providing landscapes, backdrops and a skilled workforce but developing or keeping little of the IP associated with these titles.

More generally, the success of the creative industries in Wales is fragile: 96% of creative businesses in Wales are small (very close to the UK average) (Komorowski et al., 2021b), supported by a large freelance workforce. They have a strong desire but little capacity to innovate. They lack the time and resources enjoyed by global media and digital companies – many of which are US based – to do R&D or to exploit their IP across genres.

Introduction to Clwstwr: Creative industries R,D&I in Wales

Creating Clwstwr

The CICP, we have suggested, represents a key moment in UK policy, as one of the UK's first comprehensive attempts to support R,D&I in the

creative industries. It was an experimental initiative, designed to support a range of creative industries clusters across the UK, funded from the UK Government's industrial strategy through the AHRC.[8] The £120 million investment awarded nine R&D partnerships based around clusters in the UK and was meant to 'drive innovation and growth across the UK's creative industries, to encourage a new type of applied research'. The process of choosing the UK clusters was highly competitive, with 65 regions of the UK putting in bids during a year-long process, whittled down to an initial shortlist of 22 and a final list of 12, from which 9 successful clusters were selected (in Belfast, Bristol, Cardiff, Dundee, Edinburgh, Leeds, York and two in London).[9]

Clwstwr[10] (Welsh for cluster), the successful bid from Wales, focused on the audio-visual sector – already strong in Wales – but was keen to engage with a wide range of creative sectors whose work incorporated screen technologies or news and public information. Clwstwr was led by Cardiff University (by the team that set up Creative Cardiff, a 4,000-member network of creatives in South Wales[11]), in partnership with Cardiff Metropolitan University and the University of South Wales (USW) – all of whom provided in-kind support. Clwstwr received £5.3 million in funding from the CICP programme, with additional funding of £2.6 million from the Welsh Government and support in-kind from BBC Cymru Wales, the Arts Council of Wales and Cardiff Council, whose Head of Innovation (BBC), Head of Digital (Arts Council) and Culture Lead (Cardiff Council) formed part of Clwstwr's Management Team, alongside leads from the three universities.

This was the first initiative of its kind in Wales, and indeed, the first time the three universities had worked together in this way. Each university has complementary strengths in creative industries training, research and engagement including centres of excellence such as Cardiff University's School of Journalism, Media and Culture, the substantial creative industries training programmes at the USW and Cardiff Metropolitan University's PDR, an international centre for user-centred design-driven R&D.

The Clwstwr programme was designed to provide small, independent companies with the time, resources and support for R&D, and to embed innovation in the Welsh media sector. Its goals were economic, social and cultural – values built into its assessment criteria. It was, in this sense, developing an alternative economic strategy, a step towards levelling the playing field with global, highly integrated media companies with R,D&I budgets and built-in collaborations for IP development. It embraced a quadruple helix model of innovation (Steenkamp, 2019): curating interactions and engagement between academia, industry, government and civil society; working with a range of stakeholders in the cluster and identifying the relationships and value flows between them. Its goals were economic, social and cultural:

- To create an ecosystem that provided a network of independent companies and freelancers with the capacity to innovate and develop new IP, enhancing economic sustainability and growth, thereby increasing the local tax base (in ways that enticing US corporates to make content in Wales does not);
- To encourage socially useful and environmentally sustainable innovation, while promoting diversity and inclusion;
- To enhance the capacity of communities in Wales to tell their own stories, in both Welsh and English.

During the bid development stage, the Clwstwr team spoke to over 100 creative companies and freelancers about the potential of R,D&I to create new products, new ways of working, new services and new experiences. Some – usually SMEs in more technically focused areas like post-production – were aware of the potential of R&D. But for most, innovation methodologies were mysterious or elusive. R&D was seen as another country: usually, a patriarchy populated by men in white coats, with its own esoteric practices and language. The team were, as a consequence, aware that introducing the creative industries to the world of R,D&I – while simultaneously rethinking it – would be a key challenge.

Clwstwr's strategy was to deliver a two-way process of culture change. This meant working with the sector to explain and reimagine R,D&I: what it was and how it might help them develop new ideas. The broad aim was to foster a culture of R,D&I in a sector where the primary focus is often moving from one job/commission to the next. This was a process of exploration, redefining R,D&I processes for people working in the creative industries. So, for example, it meant challenging the widespread assumption – both within and outside creative industries – that R,D&I was necessarily about *technological* innovation: but it might involve innovations in forms of storytelling or new, more effective ways of working. Clwstwr's approach throughout was iterative, involving experimentation, regular reviews and reappraisals.

At the heart of the Clwstwr programme was an *innovation funding pipeline*, designed to provide training, guidance and funding to support company-led R,D&I. It was structured around an innovation ecosystem: a system of 'wraparound support' in R&D methodologies, research and commercialisation. This would sit alongside a range of *community building, networking* and *outreach* activities, designed to foster a culture of systemic innovation while promoting R,D&I to creatives from a wide range of backgrounds.

Clwstwr's innovation pipeline

The innovation pipeline – which provided training and funding – was designed to allow multiple points of access and engagement for creative

companies and freelancers, regardless of levels of experience and understanding of R,D&I. This was *not* an innovation funnel – in which the most innovative companies were funded and others weeded out – but a process that attempted to move *all* companies towards R&D-led innovation.

Clwstwr's R&D activity was driven by a team of R,D&I producers, with industry rather than academic backgrounds, who would connect creatives with researchers and other forms of expertise, working alongside the companies and freelancers as they undertook their R,D&I projects. Producer involvement began at an early stage, offering advice and support to companies to ensure their funding applications were in scope, with a clear R&D focus and the potential to create a new and sustainable product, process or experience.

The Clwstwr team chose user-centred design (UCD) as their principal R&D methodology, with training provided by UCD specialists based at PDR at Cardiff Metropolitan.[12] Ideas Labs were offered at the beginning of each funding round: these were designed to introduce smaller creative companies and freelancers to the concept and practice of R,D&I, so that they might be in a position to apply for funding. The Labs provided an opportunity to explore, develop and refine new ideas with the support of the PDR/Cardiff Metropolitan team, taking participants through a user-design process.

Clwstwr's initial approach was to offer a short, one-day Ideas Lab open to anyone on a first-come, first-served basis. While some members of this first cohort went on to develop successful innovations, the group lacked diversity – especially in terms of gender (over 90% of participants were male). This led to two immediate shifts in Clwstwr's approach:

- To move away from the traditional, technological language used around R&D, towards an emphasis on ideas rather than technologies, realised by various forms of innovation. This meant a focus on the conceptual core of R&D – the generation and systematic use of new knowledge as a pathway to innovation – rather than (simply) enabling technologies. So, for example, on its FAQ page, Clwstwr defined R&D as activities that were not 'business as usual', were novel (aimed at new findings), creative (based on original, not obvious concepts and hypotheses) and systematic (based on a planned and budgeted approach), with a level of uncertainty about the final outcomes;
- A recognition that developing an understanding of UCD required more time (a minimum of two days), and that, for many small companies and freelancers, this meant a loss of income. Henceforth, attendees for Ideas Labs received a stipend of £500 on completion, with childcare support available to support and enable their participation. The increase in demand that followed this change meant introducing a light-touch application process for Ideas Labs – which became the first stage of an annual training/funding cycle.

The Ideas Labs played a key role in developing R,D&I skills, while significantly broadening the pool of applicants to the funding rounds that followed. As these attendees put it:

> 'Clwstwr Ideas Lab has been brilliant in terms of supporting us as individuals to develop our research strategy. We're actually thinking about the opportunities and gaps in the market, and how our research could lead to a possible solution for that. It's been fun, thought-provoking and challenging as well. It is a fantastic opportunity for us as freelancers to really nurture our artistic practice and our ideas.' 'The lab has been great. It's really needed – its thinking about funding in a different kind of way and thinking about products in a different way.'

The first funding round – a £10,000 Seed Fund, for the development of early-stage R&D projects – was launched after the completion of Ideas Labs and was open to both participants and non-participants. Later in the year, at a time when Seed funding applicants would have been able to complete their projects, Clwstwr launched their Development Fund – up to £50,000 to support R&D projects with the potential for the development of economically sustainable new products, services or experiences. This was, again, open to both Seed funded and new applicants and was often the stage at which more 'R&D-ready' companies engaged with Clwstwr. The sequencing of these different tiers of training and funding made it possible (if challenging) for a small company or freelancer – for whom R,D&I was an entirely new concept – to go through all stages of the pipeline. Indeed, a small cohort in every one of the three funding rounds achieved this.

The Clwstwr innovation pipeline designed and delivered 9 funding calls over a 3-year period – with a total of £3.42 million of direct investment between 2019 and 2022 – funding a total of 85 lead companies across 118 projects from a pool of 550 applications. The largest category of funded companies and freelancers came from film, television, games and other audio-visual sectors, developing new forms and formats for storytelling across a range of genres (from news and documentary to podcasts to interactive film); adapting digital technologies to create new products (such as immersive technology to manage pain-relief, AI technologies to enhance journalism or geolocation to create new forms of media-based tourism); or using innovation to adapt and enhance production processes (from virtual set-building to remote editing). Clwstwr also supported screen or news-based innovations from a wide range of creative fields, including dance, journalism, music, theatre and the visual arts. Projects also spilt over into other parts of the economy and society, from healthcare to transport.

The 85 funded lead businesses collaborated with a wider innovation network in Wales: with more than 190 companies working on R&D

projects (including 273 individual freelancers hired to conduct R&D) and a total of more than 700 team members and freelancers. Two-thirds of the 118 funded projects were collaborative projects, where the lead businesses collaborated with at least one other business or freelancer.[13]

Clwstwr's R&D projects took an average of seven months to complete and focused on one of three main themes: creating new ways of working to build sustainable business models; engaging audiences and markets in new ways; and exploring new forms of storytelling. Many of these innovations – especially in areas like storytelling – were about cultural forms rather than technologies. Any new IP developed remained with the company leading the project.

The programme also aimed to address social and cultural challenges facing the region, promoting diversity, inclusivity, environmental sustainability and community engagement. The evaluation of project applications was therefore based on both their potential economic impact and the need for a positive social, cultural or environmental impact (both being equally weighted in the scoring criteria for funding applications). As Clwstwr evolved, thematic sessions were introduced around commercialisation, IP exploitation and protection and wider business support with experts Landsker, Upstarter and a commercial/IP lawyer (Angharad Evans). A series of knowledge-sharing and training events were also developed on key Clwstwr themes such as environmental sustainability and equality, diversity and inclusion.

Community building through Clwstwr

Clwstwr, like all the CICP programmes, was based on the principle that the creative industries need to engage in R&D to expand their sources of cultural, commercial and public value – while acknowledging that the language and practice of R&D is new territory to many in the creative industries. The unfamiliarity of R&D for many in the creative industries put communications and engagement at the heart of Clwstwr's activities. The challenge was to convert multiple audiences from varying levels of R,D&I understanding (many of the target audience having little to none) to actively engaging with systemic R,D&I processes. Clwstwr used a range of activities – including showcasing best practices, using new, jargon-free ways to communicate the benefits of R&D, and sharing expertise, guidance and learning – to change perceptions and encourage ambition. The Clwstwr communications strategy aimed to:

- Increase R&D activity resulting in new products, services and experiences;
- Raise awareness and engagement with innovation – from a diversity of groups – in the cluster;

- Promote economic and cultural growth for the region, and;
- Amplify Wales's international profile.

Clwstwr produced targeted messaging – with a focus on accessible content – through social media accounts, monthly e-newsletters, online resources and a mobile-responsive website featuring programme information, news and events, blogs, relevant research, project profiles and online log-in and application forms. Overall, Clwstwr's communications activity generated: a website with 306,008 page views (233,506 unique page views) and 73,679 unique users; 2,351 Twitter followers, 214 Facebook followers, 568 LinkedIn followers and 813 Instagram followers; 40 editions of the e-newsletter with 593 e-newsletter subscribers.

Real-time/live engagement focused on a series of 52 events across the programme – including both public-facing events and cohort-only sessions focusing on skills development, networking, knowledge transfer and the promotion of R&D projects, engaging more than 1,300 attendees in total. The R,D&I Producer team encouraged and broadened engagement with traditionally under-represented populations, hosting Clwstwr events, presenting at sector events and conducting over 1,000 1-2-1 meetings. These meetings were particularly useful in supporting the development of R&D ideas and subsequent bids to the Seed and Development funds. They also played a key role in connecting projects with a range of expertise, including UCD R&D processes, business development, commercialisation and academic expertise.

Clwstwr also provided a platform for creative businesses and freelancers in Wales (and beyond) to network to enable new connections and partnerships. The programme's events and knowledge-sharing initiatives fostered a strong sense of community among Clwstwr participants – particularly around certain areas or themes (so, for example, the cluster of projects around news and democracy became an informal collaborative network). Clwstwr's communications activities also raised the profile of the creative industries in Wales, positioning the region as a hub for innovation and creativity by presenting at industry events and conferences across the UK and internationally. So, for example, the Clwstwr team developed partnerships with other European creative cluster organisations like Media City Bergen and led a Welsh delegation to Los Angeles to meet with US-based studios and innovators.

ClwstwrVerse, Clwstwr's largest event, was the culmination of the Clwstwr programme. Held across two venues in July 2022, the two-day event showcased Welsh media innovation, celebrating the Clwstwr R,D&I projects. It was attended by 580 people – including investors and leaders of five European creative clusters – and featured a showcase space, talks, demos, experiences and experiments as well as investor sessions, panels and workshops. The value of this showcasing event for raising the profile

of the cluster was expressed by an attendee, the innovation lead at NBC Universal:

> The thing that stood out to me about ClwstwrVerse was that the innovation happening in Cardiff was just mind-blowing. Everything that we're looking at as a studio, Universal Pictures, is completely relevant to what is happening in Cardiff. From augmented reality, virtual reality to virtual production and artificial intelligence, everything is happening in Cardiff.

This activity fed into the programme's broader aims – to increase the creative industries' propensity and capacity for innovation – while underpinning the success of each funding round by generating a wide range of strong applications from a diverse pool of companies and freelancers.

The need for a new understanding of R,D&I in the creative industries

Since R,D&I is widely acknowledged as a tool for economic growth, it has become part of European, national and regional policy agendas and the target for funding mechanisms (Nauwelaers & Wintjes, 2003). As we described earlier, the UK Government (and devolved Governments in Scotland, Wales and Northern Ireland) now includes the creative industries in its industrial strategy, making the case for public investment in creative industries R,D&I (Mateos-Garcia & Bakhshi, 2016). R,D&I has become increasingly important in the creative industries, both for policy makers and for the creative industries businesses themselves. So, for example, Bakhshi et al. (2010) highlight the need for arts and cultural organisations to engage in R&D in order to 'expand the sources of cultural, commercial and public value'. They explain how, in the context of rapid social, cultural and technical changes, the creative industries need to adapt, applying the systematic use of knowledge to shape the way they engage with society.

This has raised a number of new questions for the creative industries and policy makers: how do sectors accustomed to being a separate cultural domain, excluded from industrial strategies, respond to their sudden inclusion? Does government investment in R,D&I – its principal methods for stimulating increases in productivity, impact or growth – work for cultural and creative sectors, and if so, how? Can economic goals be delivered alongside social and cultural value? And do we need new approaches

to R,D&I, which has, hitherto, been developed in fields like manufacturing, engineering, science and technology? Answers to these questions remain elusive, for a number of reasons:

1 The creative industries are still not fully integrated into R,D&I policy mechanisms. Despite the incorporation of the creative industries in policy development, many traditional ways of thinking about culture and the economy remain in place. At all levels of government, the creative industries often remain compartmentalised under 'culture' rather than 'the economy' – or else in a confusing mishmash between the two. In a world where success is often measured by hard economic metrics, this makes politicians and policy makers less inclined to take it seriously than more traditional economic sectors. Culture is, in many political circles, still seen as softer and less tangible, somehow less connected to economic policy staples like productivity and job creation. And while Arts Councils have broadened their reach, many of the main beneficiaries of government subsidies remain firmly in the realm of the traditional arts. We need to understand the creative industries as part of a mixed economy. It includes sectors that receive subsidies – in return for perceived cultural, social or economic benefits – and the more commercial industries. As a consequence, we would argue that the creative industries should be seen as a continuum rather than a simple binary: many arts organisations depend on public funding but still raise commercial revenue, while more commercial sectors, like film and TV production, often receive significant public subsidies through mechanisms like tax credits. The interplay between commercial and subsided activity – reflecting the mix of cultural, social and economic value generated – is complex. It cannot easily be grafted onto sub-sectors, while the benefits of subsidy can spread across sectors (support for theatre, for example, provides a talent pipeline for sectors like film and television).
2 The focus on quantifiable outputs and measurable R&D activities in existing R,D&I policy mechanisms often overlook 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 (Komorowski et al., 2023).
3 The creative industries have characteristics that make it difficult to put traditional R,D&I frameworks into practice. Creative enterprises, often small and financially precarious, face significant challenges in making adequate independent investments in R&D (Oakley, 2006).

The inherent nature of project-based creative employment contributes to this uncertainty by restricting the opportunity for long-term investment and generating unpredictable revenue streams. This creates an environment where R&D activities are rarely planned into the daily activities of creative industries businesses and organisations.

4 Assumptions about technology are present across policy domains in ways that can exclude the creative industries. This means that some countries, like the UK, require R&D to be connected to scientific or technological delivery to be eligible for tax credits, overtly stating that work rooted in the arts and humanities is not eligible for R&D tax claims (a position contradicted by its industrial strategy). The OECD's definition of high-tech sectors is also STEM oriented, including, for example, pharmaceuticals, the electronic industry, vehicle construction, the aerospace construction industry and engineering (Galindo-Rueda & Verger, 2016). While countries like Italy, France, Denmark, Spain and Norway take a broader view, including Social Sciences and Humanities within R&D tax credit programmes, innovation policies are often tailored towards so-called 'high-tech' sectors (Hirsch-Kreinsen, 2008). It follows that most studies of R,D&I have focused on scientific disciplines such as pharmacology, economics/management, mathematics, health, engineering, technology or applied sciences and are rarely connected to the domains of arts, culture and the creative industries (Bakhshi et al., 2013). The systemic tools behind industrial strategies – notably R,D&I – have been developed in relation to science, technology, manufacturing and mathematics (STEM), rather than in the social sciences, arts or humanities. This has led to techno-centric assumptions around R,D&I that often do not work for the creative industries.

5 R,D&I tends to be associated with a corporate business landscape, one in which governments work with big companies to boost pre-existing R&D capacity. As a consequence, both the concept and practice of R,D&I are new to the creative industries. Most regional creative clusters (Komorowski & Picone, 2020) do not fit the STEM model of corporate partnership, being made up of hundreds of small companies (routinely employing ten people or less) and a handful of larger SMEs (Komorowski & Lewis, 2021), with little or no expertise in (or resources devoted to) R,D&I.

6 Current forms of language around R,D&I support and processes 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 skill sets and related product markets (OECD, 2015). When Lomas (2017) analysed how the *Frascati Manual* might be applied to arts and culture, she found that 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. While some creative sectors – such as theatre and performance – do use some of the terminology of R&D to describe their activity, most creative businesses are not familiar with its language and methodologies.

7 R,D&I in the creative industries can take various forms and create other kinds of (cultural) value, which tends to differentiate from R,D&I in other sectors. Innovation in the creative industries includes aesthetic innovation, cultural reinterpretation and creative expression (Snowball et al., 2022). Innovation in the creative industries is also bound up with the emergence of new business models, the ubiquitous presence of digitalisation and the intangible and increasingly cross-sector and public-interest nature of creative products. The collaborative nature of innovation is also part of innovation in the creative industries (Gustafsson & Lazzaro, 2021).

8 Finally, the current understanding of R&D tends to overemphasise a linear conception of novelty, when creative industries often thrive on more iterative processes where creators refine and adapt their work based on feedback, trends and evolving cultural contexts. This iterative approach, fundamental to creative practices (Wölbling et al., 2012), needs to be incorporated within R&D frameworks in the creative industries.

In the chapters that follow, we discuss in more detail existing frameworks, concepts and approaches to R,D&I and outline – based on our findings – how we should reframe R,D&I for the creative industries to support future research, policy making and creative industries practices.

Data insights of this book – Methodology

This book is informed by:

- Monitoring data collected from 118 R,D&I projects curated and funded by Clwstwr with 85 different creative industries partners, including interim and final reports;
- Case studies of selected projects;
- Over 500 survey responses from Clwstwr-funded and non-Clwstwr-funded businesses before and after Clwstwr's R,D&I intervention.

The methodology used to gather and analyse these data sets is outlined in more detail in Lewis et al. (2023). The primary data set for this book is based on extensive interviews from the 85 businesses funded by Clwstwr (for more details on projects and interviewees please see the Appendices). Each of the following chapters uses a specific analysis of these data (details

of which can be found at the beginning of the Findings section of each chapter). Between November 2021 and January 2023, a total of 68 interviews were conducted with businesses and sole traders participating in R&D through the Clwstwr programme. Several businesses went through multiple funding rounds, so the 68 interviews covered a total of 91 R&D projects. Each interview session lasted between one and two hours and followed a customised framework rooted in cultural theory and value creation processes.

The methodology drew upon the conceptual framework established by Fuller et al. (2011), which scrutinises the emergence of value within the cultural and creative industries. This model was modified to align with the Clwstwr programme, taking into account three of its focal areas: environmental sustainability, Equality, Diversity and Inclusion (EDI) and R&D leadership. The resulting model shaped the interview structure and facilitated the comprehensive collection of R&D data across Fuller et al.'s three levels of value generation (2011) – reflexivity, operability and sensitivity. The methodological framework led to the design of a two-step interview process. The first phase aimed to explore the value and impact of R&D using an experimental lens that made use of phenomenological approaches and graphic elicitation tools (Copeland & Agosto, 2012). The second part explored, in more depth, the impact and value of R&D through a series of targeted questions.

The first part of the interview made use of the Miro platform to collect qualitative data. Interviewees were asked to draw a line on a graph to represent their own R&D experience, which was assessed against both the project timeline and their level of expectations. The drawing process was accompanied by a verbal explanation of the undertaken R&D journey, informing the indicators synthesised by the graph. After illustrating their R&D experience, participants were asked to select from a series of ten key performance indicators (KPIs), which they believed applied to their own projects, i.e. areas where the impact was tangible. Interviewees could choose from the following KPIs: R&D effectiveness (e.g. novelty, time), Clwstwr support (e.g. interaction with support staff, participation in training, workshops and participation in events), developed IP (e.g. patents and copyright), new business opportunities, widening audience base, environmental/social/cultural value, new staff, local and international partnerships/networks and business growth opportunities (e.g. productivity, exports, turnover and R&D tax claims).

For the analysis in Chapters 2 and 3 we coded graph narratives using Nvivo software, following an inductive reasoning approach (see respective chapters for more details). For the quantitative analysis in Chapter 4 we have encoded all drawings recording the R&D journeys of Clwstwr projects following uniform criteria and applied statistical methods (see Chapter 4 for more details). The second part of the interview focused on

specific questions to explore the impact of R&D on their businesses. These covered:

- R&D (novelty of R&D processes, time invested in R&D, changing understanding of R&D);
- The application process (description of the process, support during application, challenges in applying, user-friendliness);
- Clwstwr support (most beneficial support, additional support);
- Developed IP (planned and reached TRL level, registered IP, importance of IP, approach to open innovation);
- Business growth (spin-offs, expansion possibilities, turnover growth, staff growth, staff upskilling);
- Audience growth (new audiences reached, learnings);
- Approaches to sustainability (values, learnings, communication of values, targeted sustainable development goals);
- Partnerships (closed local partnerships, closed international partnerships), and;
- Future outlook (major challenges in the next five years).

While all the questions contributed to a qualitative data set, some provided quantifiable data. We used a grounded approach for the qualitative data analysis to establish the most impactful aspects for businesses in terms of R,D&I. The responses provided in the second part informed research results across the chapters. For example, in Chapter 3 we combined the Nvivo analysis with the responses from specific questions addressed in the second part of the interview to determine the number of innovators falling into specific typologies. To assign learning scores, we used the questions falling under the 'growth' KPI area, where respondents were asked to assess the impact of their project on learning and new staff. For the R&D focus score, we coded questions falling under the R&D KPI area, where respondents were asked to assess the nature of their R&D processes within their projects.

This mixed-methods approach informs our findings and discussions throughout the book. More details about the methodologies and analysis applied can be found throughout the following chapters. The main purpose of the book is to reframe the concept and processes of R&D in this sector, moving beyond old R,D&I paradigms borrowed from technical and scientific domains. In doing so, it builds on empirical data from the Clwstwr project, progressively organised into five chapters that introduce in turn the historical context of the development of R&D (Chapter 1), businesses' perception of R&D in the creative industries (Chapter 2), a novel framework for R&D-led typologies of innovation (Chapter 3), optimal levels of support for creative businesses conducting R&D (Chapter 4) and overarching conclusions and recommendations for building a thriving creative economy through the lens of R&D (Chapter 5).

Notes

1 Creative Industries Economic Estimates Methodology, DCMS: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/499683/CIEE_Methodology.pdf.
2 See, for example, https://foundationaleconomy.com/.
3 UNCTAD Classifications: http://unctadstat.unctad.org/EN/Classifications.html.
4 https://assets.publishing.service.gov.uk/media/5a7c0b3de5274a7202e19327/Classifying_and_Measuring_the_Creative_Industries_Consultation_Paper_April_2013-final.pdf.
5 The full data can be found via https://www.gov.uk/government/statistics/dcms-and-digital-sector-gva-2022-provisional/dcms-sectors-economic-estimates-gross-value-added-2022-provisional.
6 A full data picture of the creative industries in Wales is available at https://maps.datahubclub.uk/atlas.
7 https://rts.org.uk/article/all-things-bleak-and-beautiful-rise-welsh-noir.
8 https://creativeindustriesclusters.com/.
9 https://culturecounts.scot/news/shortlist-announced-creative-industries-clusters-programme.
10 https://clwstwr.org.uk/.
11 https://creativecardiff.org.uk/.
12 https://www.cardiffmet.ac.uk/pdr/Pages/default.aspx.
13 A full list of funded projects is available at https://clwstwr.org.uk/projects.

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