Book Review: Data-Driven Innovation in the Creative Industries (Melissa Terras, Vikki Jones, Nicola Osborne and Chris Speed: Routledge, 2024).

Lucy Costelloe

Corresponding author(s):

Lucy Costelloe	Kemmy Business School University of Limerick	lucycostelloe@gmail.com	https://orcid.org/0000-0002-2285-3050

Abstract:

In *Data-Driven Innovation in the Creative Indus*tries, Melissa Terras, Vikki Jones, Nicola Osborne, and Chris Speed arrange a series of contributions across eleven chapters and additional case study segments that offer a new perspective on the topic of data-driven innovation for arts management, cultural policy scholars and arts practitioners alike. The book supports the objectives of not only clearly defining data-driven innovation but also stimulating conversations across a series of main themes from partnerships in digital technology, skills, frameworks and policy considerations. The eleven chapters are informed by the *Creative Informatics* initiative which showcases research conducted over five years in Edinburgh. The book explores the scope of data-driven innovation in the Creative and Cultural Industries and contributes significantly to the field of arts management and cultural policy but also opens up further avenues of research within other fields through the positioning of arts and cultural entities as both novel and interesting sites of study on innovation.

Keywords: creative industries; data-driven; innovation; creative economy; digital practices.

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In this new book, Melissa Terras (Professor of Digital Cultural Heritage at the University of Edinburgh), Vikki Jones (Research Associate at the Institute for Design Informatics, University of Edinburgh, UK), Nicole Osbourne (Creative Informatics Programme Manager at the University of Edinburgh), and Chris Speed (Professor of Regenerative Design Futures at RMIT, Melbourne Australia) edit an eleven chapter body of work that is centred around the topic of data-driven innovation (DDI) in the creative and cultural industries (CCI). The book explores ways to support the creative industries (CIs) in leveraging opportunities presented by digital technology and DDI. This collection builds on five years of research conducted by the Creative Informatics cluster and its partners, highlighting how DDI can potentially transform practices, enhance policies, and produce more inclusive and sustainable results, from skills development to creative and business ethics. The chapters compiled are contributions from academics from post-doctoral researchers, lecturers and professors from universities across the UK, Turkey, France, Netherlands, and Australia. It also features contributions from other industry institutions from Spain and India. All chapter authors come from diverse and extensive backgrounds, ensuring that this book makes a significant contribution to both academia and industry, while also providing opportunities for future discussions under the umbrella of DDI and CreaTech—the intersection of creative skills and emerging technologies—highlighting the need for further exploration of data-driven innovation in the creative industries.

In today's digitising world, the CIs are not isolated from the influence of data and digital technology. However, these organisations and professionals face unique challenges in adopting data-driven practices, as the benefits and limitations are often complex and contested (Zembylas, 2019). While digital technology and AI are rapidly marketised within arts and culture through insights reports, expert consultancy firms and other membership organisations, the CCIs are typically slower than other industries in embracing these changes (Selwood, 2002). The rise of Software as a Service (SaaS) digital partners and recovery from the COVID-19 pandemic has shifted the boundaries within the CCIs. Data has been a central focus in arts management literature for some time, with ongoing discussions about implementation barriers (Nuccio et al., 2022; Bruce et al., 2017; Messina, 2018). Research highlights data's role in stakeholder management (Kaple, 2002) and performance monitoring (Umar & Hassan, 2018), while Boyd and Crawford (2012) describe a looming digital divide, echoing earlier concerns about the difficulty of obtaining reliable data (Kaple, 2002).

Recent UK and Irish initiatives, such as Fáilte Ireland's *Digital That Delivers* programme, which aims to enhance visitor experiences through digital tools (Fáilte Ireland, 2024), and the Arts Council of England's partnership with Bloomberg Philanthropies' *Digital Accelerator*, which supports technology infrastructure improvements (Bloomberg Philanthropies, 2024), have accelerated digital uptake in arts and cultural organisations, contributing to the acceleration of digitalisation. However, there is limited literature on how the arts sector and CCIs have adapted to these pressures, and this book provides a novel exploration of data's influence on digitalisation within the cultural sector. These initiatives highlight the need for scholars to revisit questions such as "data-driven for whom?" (Bopp et al., 2017). The book contributes to this ongoing research, signalling gaps that need further attention. It positions the CCIs as fostering innovation through collaboration, though not without challenges, as outlined in the chapter summaries.

Chapter one sets the foundations in terms of defining some of the key statements, concepts and definitions of the overarching theme of DDI. This introductory chapter by Terras and Jones demonstrates the impact of digitalisation on the CIs and showcases an argument for the requirement to address the lack of research and expertise in DDI within the CCI. The clear definitions of CIs as well as data and innovation set the tone for the upcoming work and case studies that are discussed. Their view of innovation in the CI is collaborative and iterative, highlighting how data provides both economic and social values for arts and culture. However, these benefits are overshadowed by their understanding that the sector as a whole lacks consistent frameworks for data collection and analysis currently. This chapter addresses gaps such as inconsistent definitions of data collection and complicated analysis and highlights the requirement for frameworks to support DDI within the sector.

The following ten chapters branch off on various explorations from this starting framework presented by the main editors. A series of short case studies are layered between each of the chapters, adding depth to how DDI is performed in reality across a wide range of themes. These case studies vary from remote healthcare to the games sector, digital start-up training, and audio AI.

Ecosystems and partnerships are explored in chapter two and how they enable DDI in the CI. Their importance as well as the role of strategic partnerships in fostering innovation is discussed in detail and opens up a new direction of research both from the field of arts management but also potentially from other fields such as Science and Technology Studies (STS). This is an interesting stepping stone for researchers and practitioners who are interested in digitalised markets and practices in

particular. In this chapter authors Panneels et al. argue that creative ecosystems reduce translation costs as well as support research and design. They evidence how networks are crucial for innovation and growth by using case studies from various regions within the CCI. In doing so, they raise concerns that clear supporting policies and infrastructure are a requirement for the sector efficiently and effectively to harness the benefits of these creative collaborations.

Chapter three discusses the challenges of data collection and analysis in the CCI through the lens of R&D. Authors McDonald et al. offer recommendations for improving data-informed policy design by highlighting the various benefits and future possibilities for DDI by addressing inconsistent data collection methods and the importance of accurate data for future policy-making, a topic which has already seen significant policy shifts within Ireland and the UK. This chapter highlights how CCIs are entrepreneurial to an extent but are faced with barriers such as limited R&D funding and technical expertise. They also suggest that there is a requirement for novel data collection and evaluation methods within the CCI. They contribute to views that aren't supported necessarily by drawing on frameworks from other industries but by positioning arts and culture as a unique sector.

Osborne et al. develop this idea in the following chapter (chapter four) by directly discussing digital and data literacy within the sector. They argue that digital transformation is rapid and requires continuous skills development within digital literacy and other soft skills. By implementing training models to support both technical and other skills, the CCI can be better supported to foster DDI through nuanced approaches to upskilling within these criteria. However, they argue that this is not easily achieved due to the limited capacity for continuous professional development within the sector. They discuss how this could be supported by looking at more inclusive and practical training models for professionals.

In chapter five, Black et al. present the topic of diversity and inclusion (D&I) within the creative economy through the context of data-driven decision making. Their discussion is interesting as it touches upon an important social value within the sector and creates a space to explore the role of data in understanding D&I and promoting equality within the sector. D&I are explored as an important component for innovation which follows on well from chapter two which speaks of DDI as being built on collaboration. However, given the current global climate of social unrest, war, and political upheaval, where CCI often help foster community for those displaced or where we could argue that arts and culture have an important role in positively impacting society, it feels ambitious to rely on data alone to promote equality—especially considering the sector's existing skills shortages and gaps as mentioned in various other chapters. Nonetheless, the chapter makes a compelling case for investing in training and upskilling frameworks, emphasising the societal benefits of fostering sustainable DDI, particularly when supported by cultural policies that actively promote equality and diversity.

If we are to consider a data-driven sector and the requirement for better opportunities not only to process data but also utilise it within policies and future strategies, then a matter of importance is data ethics which is discussed in chapter six in the context of digital CIs. Osbourne et al. discuss the ethical considerations and risks of DDI and promote conversations that are required to support responsible data practices. They present the Creative Informatics' self-assessment approach and their guidelines look at the ethical considerations in data use as well as privacy. This includes compliance with legal framework and ethical guidelines for data use in the CCI. They also address

gaps around the lack of centralised efforts to ensure ethical data practices and the need for continuous adaptation for emerging best practices which further strengthens the requirement for a nuanced approach highlighted earlier around professional development within digital and data-led practices.

Authors Terras et al. of chapter seven further dive into the evolving legal context but from the point of view of digital assets, focusing on the particular implications that impact the creative digital industry. Familiar topics to the sector such as traditional intellectual property models are revisited from a new perspective of digital technology which presents challenges such as digital content ownership and copyright. Again, we see the threat of limited frameworks through policy and law that support the CCI on these issues and the requirements for considering new forms of digital asset ownership.

In chapter eight, digital technologies are explored by Elsden et al. with an account of how they are decentralising the valuation, support and payment for creative work with a particular focus on performing arts artforms within the CCI. This chapter in particular highlights how, whether or not arts and culture approach DDI with open arms, if they choose to linger on the current trends and benefits, they risk experiencing a series of stark downfalls by not supporting themselves through appropriate infrastructures. In the example and discussion of this chapter, the role of digital platforms in facilitating creative transactions is discussed. Authors showcase their argument by signalling how digital platforms offer new ways to potentially monetise creative work as well as the importance of understanding audience engagement within a decentralised context. It will be interesting and valuable to understand how further research may contribute to sustainable and equitable applications of decentralised technologies to capitalise on such initiatives successfully through DDI.

Chapter nine includes a discussion of the impact of generative AI on creative practices highlighting both opportunities for artistic creation and concerns for professional artists and is presented by Cidmar et al. This topic no doubt will become increasingly popular within an arts management and cultural policy perspective as these tools become more of the norm, particularly within the models of digital platforms and technology partners within the sector. Their discussion focuses on the impact of AI on artistic creation as well as creative professional practices and on the role of artists in exploring the ethical implications of AI within these practices. While their argument concentrates on the potential benefits that generative AI could offer in terms of creative opportunities, they also signal that there is a level of uncertainty about the impact of AI on the CI and ongoing research will better support understandings through critical engagement with AI in the sector.

Chapter ten revisits the topic of the COVID-19 pandemic on live events but focuses on digital and hybrid event models in the context of DDI. Jones and Elsden discuss the lasting impact of the global health pandemic within the CCI and how digital adaptations as a response to the barriers to practice presented as a result. They argue that data platforms foster an important and prominent role in transforming live events and that both digital and hybrid events can stimulate new opportunities for audience engagement. This can be achieved by exploring sustainable digital event models which they present as an important avenue for further consideration within the sector. But first, they argue, challenges need to be addressed by better understanding the impacts of digital events as well as extending digital practices to a broader range of cultural organisations.

In the concluding chapter of the book, Panneels et al. introduce a discussion around sustainable practice in the context of DDI and how this is unique in the context of the creative economy. The overarching argument presented by the contributors is that data-driven innovation (DDI) supports sustainability in the creative industries by highlighting ecological, social, and cultural benefits. This includes the integration of sustainability goals in creative practices and the role of DDI in promoting sustainability across the sector by situating DDI 'as a tool in a larger toolbox' (Paneels et al., 2024, p. 259). The final chapter provides a useful summary of the overarching topics and themes presented across the entire book including the impact of digitalisation, value creation through DDI, ecosystems and partnerships, challenges within data collection and policymaking, training and skills development, diversity, inclusion and ethics, ownership and sustainable practices. For example, this chapter highlights how better data literacy and access to data will support sustainability as well as the integration of sustainable goals and environmental practices. Similarly to the other gaps presented in the previous chapters, again we see that data gathering is a key area in unlocking some of the challenges presented for realising DDI successfully.

Data-Driven Innovation in the Creative Industries offers a timely and comprehensive exploration of the intersection between digital technology and the CCI. Through its diverse contributions, the book successfully outlines the challenges and opportunities of DDI, providing valuable insights for both scholars and practitioners. While certain areas could benefit from deeper exploration, particularly in addressing the gaps identified across the eleven contributions, the book lays a solid foundation for future research. Overall, this collection is essential reading for those interested in digital transformation within the creative economy and will undoubtedly influence future discussions on innovation, policy, and practice from arts management, cultural policy, and broader interdisciplinary perspectives.

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