Institution: Ulster University

Unit of Assessment: Music, Drama, Dance, Performing Arts, Film and Screen Studies (33)

Title of case study: ICS2 Arts Data Impact: using arts data to drive organisational and policy change in the creative industries sector

Period when the underpinning research was undertaken: 2013 - 2020

Details of staff conducting the underpinning research from the submitting unit:

Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Prof. Paul Moore	Professor of Creative Technologies	1999 - present
Prof. Anthony Lilley	Professor of Creative Industries	2013 - present

Period when the claimed impact occurred: August 2013 - 2020

Is this case study continued from a case study submitted in 2014? N

1. Summary of the impact

This case study demonstrates impact upon leading local, national and international arts bodies, and the wider creative economy, through the development of a new form of data analysis focused entirely on the arts sector. It demonstrates how a 'thick data' methodology is now accepted as a key resource for promoting real organisational change. Impacts include:

(**I1**) challenging established norms, modes of thought and practices, through influencing public and political debate, evidenced through key policy documents from the AHRC, Nesta, and the Arts Council of Northern Ireland

(**I2**) informing and driving change in organisational culture (Barbican, English National Opera, National Theatre) through influencing delivery of professional services

(**I3**) embedding new organisational data and ethnographic analysis methodologies as a model for arts organisations through work with the Audience Agency and Audiences NI

(**I4**) embedding the concept of data-driven decision-making for the first time as a key criterion in major funding awards in the creative industries sector

2. Underpinning research

This is an ongoing, multi-dimensional programme of research that has generated impact from its high profile within the arts sector, both cumulatively and in relation to its individual outputs. In *Counting What Counts* (**R1**), published in 2013, Moore and Lilley sought to contribute to the debate around the use of big data within the arts. Intended as a provocation, *Counting What Counts* argues for the application of data-driven decision-making in the arts sector, whilst also developing a three-stage model for the diagnosis of the extent to which an organisation has embedded data decision-making in its infrastructure, pre and post-intervention. The research undertaken by Moore and Lilley is also central to the argument that the arts and humanities, as disciplinary entities, need to establish the key role that data, and arts-based understandings of data, can play in both organisation and policy development. These theoretical arguments form the grounding for various arts data decision-making models which ultimately emerged (**R5**), with testing in the field supported by a GBP299,985 R&D grant from Nesta/ACE/AHRC (**G1**), working with three major arts bodies in the UK: National Theatre; Barbican and English National Opera. From this research, original and important findings emerged (**R2**), offering models for the future management of data in an arts space (**R5**). The findings identified problematic issues and offered strategic solutions:

Problems

- The negative influence resulting from the dominance of intuition-led decision-making over data-led decision-making (**R2**)
- The tendency for organisations to use data for 'rear-view mirror' justification rather than future scoping (**R2**)

- The continued primacy given to artistic considerations over data-driven evidence which can lead to flawed commercial decision making (the so-called reverential gap) (**R2, R3**)

Solutions

- The importance of 'thick data' when creating organisational narratives for the public space (**R5**)
- The crucial importance of an arts-based data scientist in residence (DSR) to facilitate neutral and organisation-focused analysis of available data (**R2**)
- The centrality of data-driven evidence in design of physical space and space usage in prominent arts organisations (**R4**)
- The efficiency of data infographics to generate greater public understanding and engagement with data in ways not previously possible (**R4**)

3. References to the research Outputs can be provided by Ulster University on request.

Publications
(**R1**) Lilley, A. and Moore, G.P. (2013) *Counting What Counts.* London: Nesta
(**R2**) Moore, G. P. (2016) 'Big Data and structural organisation in major arts bodies: an evolving ethnographic method'. *Cultural Trends*, 25 (2) pp 104-115
(**R3**) Lilley, A. and Moore, G.P. (2015) *When Data Sings*, Arts Council England/Sound and Music, RCCT, London
(**R4**) Moore, G.P. (2015) 'Big Data, Practice and Policy', in *Museums: Citizens and Sustainable Solutions* (2015). Copenhagen: Danish Agency for Culture, pp 268-280
(**R5**) Moore, G.P. (2018) 'From Big Data to Thick Data: Theory and Practice', in Schiuma G. and Carlucci D. (eds) *Big Data in the Arts and Humanities: Theory and Practice* (2018). London: Auerbach
Grants
G1 Prof P. Moore PI, *Arts Data Impact - Using Big Data to Improve the Effectiveness of National Cultural Bodies,* AHRC/Arts Council England/Nesta (June 2014 – May 2015), GBP299,985 of which GBP43,091 came to Ulster University - led by Audience Agency UK

4. Details of the impact

(I1) Challenging established norms, modes of thought and practices, through influencing public and political debate, evidenced through key policy documents from the AHRC, Nesta, and the Arts Council of Northern Ireland

When *Counting What Counts* was published, there was still an active debate in the arts community concerning the relationship between cultural economy/cultural industries and cultural economy/creative economy. The fundamental aspect of this debate hinged on whether referring to the work of arts bodies as a 'creative industry' would undermine the essential creative/aesthetic aura of arts work and push organisations into business practices which would actively disrupt this creative thrust. The impact of *Counting What Counts* was such that it became a focal point for this debate and Moore and Lilley were invited to present at the EU Culture Ministers' Symposium in Lithuania in October 2013, with the letter of invitation stating '***we would like you to give a tone-setting presentation in the third session of the conference,* Tracing the Evidence in Public Interventions for Culture***…we would like you to present the report* Counting What Counts*, possibly focusing on the necessity for [an] integrated, customer-centred approach to all data gathered and interpreted, based on social capital formation and cultural value.'** (**C2**)

The period since the publication of *Counting What Counts* illustrates the shift in both language and understanding of the creative industries, a shift driven by the application of key data sets, not least Gross Value Added (GVA) and employment figures. The importance and impact of this shift in discourse is underlined by the references to it into key policy documents *Making Digital Work* (Nesta) and the AHRC Cultural Value Project (**C9, C10**), and this debate was also the impetus for Nesta, Arts Council England and the AHRC to commission further research which would test the theories concerning data-driven decision-making in large arts organisations in the GBP299,985 Arts Data Impact study in

collaboration with the Audience Agency UK. The Director of the Creative Industries Policy and Evidence Centre stated: ***'Moore and Lilley were instrumental in developing and delivering the research plan for delivery of the AHRC/ACE/Nesta R&D project Arts Data Impact as part of the Digital R&D Fund for the Arts. This work was a follow-on from the Counting What Counts publication which acted as a provocation to those working in the arts to begin considering how data could enhance their work practices while offering evidence of impact for relevant funders.'*** (**C4**) More specifically, the imperative to move from 'traditional', unmediated, forms of data presentation to new forms of data visualisation more suited to the arts context and facilitating greater access and understanding, is highlighted in the Nesta report 'Making Digital Work', which cites Moore and Lilley in this regard: ***'Different communication styles work for different people, so data experts need to be using verbal, written and visual techniques to deliver messages. Paul [Moore] believes the right data tools, such as well-designed infographics or dashboards can improve accessibility and be the key to instigating change*.'** (**C9**). Furthermore, the Chief Executive of the Arts Council of Northern Ireland (ACNI) stated that ***'ACNI officers have accessed the details of methods which could enhance arts policy and this [Moore's work] was especially useful as the latest ACNI Strategy Document was being developed.'*** (**C8**)

(I2) Informing and driving change in organisational culture (Barbican, English National Opera, National Theatre) through influencing delivery of professional services

The application of the 'thick data' model to the three study organisations had two key impacts. The first of these was the embedding of the Data Scientist in Residence (DSR) concept, as outlined in the AHRC Cultural Value Project final report: '***Under the [Moore and Lilley Arts Data Impact] project, the first ever data scientist in residence for the arts was to work at the Barbican, English National Opera and National Theatre, to interrogate their ever-growing data resources, with a view to developing data- driven techniques.'*** (**C10**) In August 2019 the National Theatre advertised and appointed a DSR as a direct impact of the arts data research (**C1, C4, C5**). The Director of the Creative Industries Policy and Evidence Centre at Nesta said ***'The research work with the three partners (ENO, Barbican, National Theatre) was ground-breaking in that it embedded academics in the organisations, working to the methodologies of data ethnography designed by Moore and, more importantly, created the concept of the data scientist in residence. This role was entirely new to the sector and such was its impact that one of the partner organisations, the National Theatre, went on to appoint a full-time data scientist in residence.'*** (**C4**) The second major impact of the research was the introduction of alternative workflow models where data is seen as the starting point, with the core work of the organisation being aligned with appropriate data sets rather than data being used merely as a post-event evaluation tool: as the Chief Executive of the Audience Agency stated: '***Important changes in policy were introduced in the organisations through involvement in the research project, some systems-based.'*** (**C5**) In addition to this impact, as a result of the above project work, under a new director at English National Opera (ENO) there was a narrowing of the space between the artistic ('values–driven') and data–driven parts of the organisation, offsetting the 'reverential gap' where artistic directors had previously been given absolute priority to dictate aspects of marketing and audience engagement. The then Head of Brand Marketing at ENO asserted that ***'much of this research [data-driven approaches to decision-making] was new to the ENO. The arts data R&D project had an impact on all areas of the ENO's operations from box office, through performance scheduling to audience development. While much of this was challenging to the organisation it played a key role in helping the ENO to develop future-facing strategies.'*** (**C1**)

(I3) Embedding of new organisational data and ethnographic analysis methodologies as a model for arts organisations through work with the Audience Agency and Audiences NI

The AHRC/Arts Council England/Nesta -funded R&D project was such that the impact was swift, given Nesta's capacity for dissemination. The impact was UK-wide and given that the arts data research was undertaken in three of the UK's leading arts organisations (National Theatre, ENO and Barbican), the findings drove significant change across the sector. The Director of the Creative Industries Policy and Evidence Centre at Nesta has stated that *'the foresight of* **Counting What Counts** *in identifying the importance to leaders of the role of data in the arts cannot be overstated: Arts Council England is only now in 2021 announcing its first Chief Data Officer.'* (**C4**) In 2016 Moore was consulted by the UK Audience Agency resulting in development of models for data retrieval and analysis which are being rolled out across arts bodies throughout the sector, including further work in NI supported by Audiences NI (now Thrive). The Audience Agency and Audiences NI both initiated training schemes based on the findings of Moore and Lilley. In the NI context, Moore delivered bespoke training to 14 major arts organisations and district council arts officers. The CEO of Thrive wrote: '*I have no doubt these sessions helped to advance the understanding of the role of arts data in developing strategies and accessing funding.'* (**C6**)

The opportunity for data-related roles to become less siloed, with more people involved in senior-level discussions around data, has contributed to innovation within these organisations and within these influential sectoral bodies. The CEO of the Audience Agency noted that this work **'h***elped those organisations to understand how they could better use data to improve audience reach and understanding in often surprisingly creative and liberating ways*' (**C5**), with data-related approaches growing in importance in these organisations. The Director of the Creative Industries Policy and Evidence Centre noted: *'Such was [the] impact that one of the partner organisations, the National Theatre, went on to appoint a full-time data scientist in residence.'* (**C4**) The Audience Agency CEO stated that '*important changes in policy were introduced in the organisations through involvement in the research project.'* (**C5**) Furthermore, the CEO of the Audience Agency noted: '*This project was also important to The Audience Agency at a key moment in its own development and the work has accelerated the general understanding in the arts community of the importance of arts data in their planning strategies.'* (**C5**)

(I4) Embedding the concept of data-driven decision making for the first time as a key criterion in major funding awards in the creative industries sector

The embedding of data-driven decision-making methodologies in the creative industries space is proven by the adoption of data as a criterion for the UK Industrial Strategy AHRC Creative Industry Clusters Programme (**C3**); in the Republic of Ireland via the EUR11 million Creative Futures Academy (**C7**); and in the arts sector of NI, in collaboration with the NI Department for Communities (**C8**). In the UK context, the nine award-winning clusters had to model their ability to drive growth in their region through a data analysis focused on GVA and employment statistics. In NI this data was almost entirely absent, and the Ulster team researched and produced data models which were central to the award of a GBP13 million (GBP5.7 million from AHRC, with industry matched funding), to fund the Ulster-led Future Screens NI creative industries cluster (FSNI) and also leveraged Ulster University's membership of the Creative Industries Policy and Evidence Centre consortium at Nesta (**C3, C4, C10**). The Challenge Director: Audience of the Future and Creative Industries Clusters Programme, UK Research and Innovation said: **'***Lilley and Moore's thinking was a key strand informing the AHRC/UK Industrial Challenge Fund Creative Industries Clusters Programme, with Lilley applying this thinking directly to contribute to the programme design which required applicants to have a profound understanding of the data relevant to their region and then use this understanding to make informed predictions concerning strategic growth for their region. This was an entirely novel approach for AHRC in research funding terms and also in terms of unifying University and Industry partners around the idea that a common understanding of cluster dynamics required*

a data strategy at the core.' (**C3**) The Director of the Creative Industries Policy and Evidence Centre at Nesta stated: *'The impact feedback on this R&D project is documented in a number of documents published by Nesta, the AHRC and Arts Council England and this work arguably played a key role in shifting thinking about data in the arts from the periphery to the centre. It also served to inform the inclusion of Ulster University in the Nesta-led Creative Industries Policy and Evidence Centre (PEC) Consortium which uses detailed data models to underpin and inform national arts and creative industry policies.'* (**C4**)

The data models produced for the FSNI bid have become a key resource for policy and decision making in the NI context by the Department for Employment, the Department of Communities and the Arts Council NI. Prof Moore worked with the Dept. For Communities in NI to produce data sets which have underpinned the targeting of arts funding in the region. This took on special significance with the onset of the Covid crisis and this data became the grounding for a number of funding initiatives (GBP1.3 million), in particular via a *Rewriting the Narrative* call and *Resilience* (Covid-related) calls in partnership with the ACNI and the Department for Communities, which has culminated in Prof Moore assuming an advisory role and presenting to the Economy Committee at the NI Assembly on the importance of creative industries to the region. The Chief Executive of ACNI said: '*The Department for Communities is also a key partner in the Covid funding mentioned above and the arts data research methodologies have been central to policy documents published by this governmental department. The Department for Communities also worked with Future Screens NI to facilitate the secondment of a research associate to work with ACNI officers to develop arts data strategies relevant to the region.'* (**C8**)

In the context of its influence upon the sector in the Republic of Ireland, the Chair of the board of the Irish national broadcaster, RTÉ, said: *'The work has also had a wider significance since one of our Board members is an academic from UCD, Dublin. He engaged Prof Moore to lead planning sessions with other leading academic figures in the creative industries space. This work [on using] arts data resources to advance R&D in the sector, was central to the development plan which emerged from these sessions. This plan, grounded on the Future Screens NI [NI Creative Cluster] model, has just led to a consortium of UCD, IADT, Trinity College and relevant industry partners being awarded 11 million Euro to advance academy/industry collaboration.'* (**C7**)

5. Sources to corroborate the impact
(**C1**) Statement from the Head of Brand Marketing ENO
(**C2**) Statement from the Vice Minister EU Culture Symposium
(**C3**) Statement from the Challenge Director: Audience of the Future and Creative Industries Clusters Programme, UK Research and Innovation
(**C4**) Statement from the Director of the Creative Industries Policy and Evidence Centre
(**C5**) Statement from the Chief Executive of Audience Agency UK
(**C6**) Statement from the CEO of Thrive, formerly Audiences NI
(**C7**) Statement from the Chair of RTÉ Board
(**C8**) Statement from the Chief Executive of Arts Council NI
(**C9**) Making Digital Work (Nesta 2015), pp. 12-14
(**C10**) The AHRC Cultural Value Project Report (2016), p. 126