

Qualitative network analysis tools for the configurative articulation of cultural value and impact from research

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Abstract

This article introduces a methodological approach for articulating and communicating the impact and value of research: qualitative network analysis using collaborative configuration tracing and visualization. The approach was proposed initially in Oancea (*Interpretations and Practices of Research Impact across the Range of Disciplines Report*, Oxford, Oxford University, 2011) and was refined and tested in a 2013–14 study funded by the Arts and Humanities Research Council. It uses co-constructed qualitative network diagrams to enable the systematic elicitation and visualization of information from participants (such as researchers, administrators, facilitators, partners, users, and beneficiaries of research) about the different flows and relationships that they see as relevant to creating, articulating, and demonstrating impact and value from research. Unlike quantitative network studies, the emphasis here is on the process of construction and interpretation of qualitative network maps by the participants. Subject to further testing and refinement and to critical understanding of the conceptual, technical, practical, and political limitations of measurement in this area, the approach that we have developed can be adapted for use in research, evaluation, communication, engagement, knowledge exchange, and developmental work in higher education institutions and funding organizations.

Key words: qualitative network analysis; network mapping; cultural value; research impact; arts and humanities research.

1. Background

'For the purposes of the REF, impact is defined as an *effect on, change or benefit* to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia' (REF 2014, para 140—our emphasis)

'Research across the arts and humanities (understood in their broadest definition) has *consequences* for individuals and groups in the UK and internationally, *challenging* imaginations and *enriching* lives economically, culturally, spiritually and educationally. The impact of such research is powerful, pervasive and ubiquitous, *influencing* civil society and the quality of life' (REF 2014 Panel D, para 83—our emphasis)

'Institutions will echo a top-down rhetoric in order to make a case for resources but it's not how people describe what they do' (interview participant, Oancea, Florez-Petour and Atkinson 2015).

The first two of these paragraphs come from official guidance offered to higher education institutions (HEIs) preparing submissions to the most recent national exercise for the assessment of research in the UK. From the generic guidance given by the funding council (in the first paragraph) to the subject-specific guidance elaborated by the arts and humanities panel of academic and 'user' assessors (in the second paragraph), the term 'culture' shifts from being used as a noun, including to point to a sector, to adverbial use qualifying aspects of living or being; while its collocates shift from causality ('effect', 'change', and 'benefit') to 'consequences' ('challenging' and 'enriching') and 'influence'. References to the economy, however, remain prominent in both statements.

The contrasts between these paragraphs illustrate how difficult practically and challenging politically it is, within the boundaries of a performance-driven exercise such as the UK Research Excellence Framework (REF), to try to articulate the contributions and value of inquiry in the arts and the humanities. Recent proposals to extend

existent methodologies for cultural measurement to the capture of research impact and value in the arts and the humanities attest to these difficulties. These proposals focus on a wide range of measures, each with its own acknowledged and less acknowledged limitations—for example, measures of economic benefits (AHRC 2009; Ferres, Adair and Jones 2010; O'Brien 2010; ERS and ALMA 2011; Arts Council England and BOP Consulting 2012; CEBR 2013); cultural freedom (UNESCO 2010); community cohesion and cultural vitality (Jackson, Kabwasa-Green, and Herranz, 2006); well-being and personal development (Brown and Novak-Leonard 2007; Daykin et al. 2008; Stiglitz, Sen and Fitoussi 2009a,b; Grossi et al. 2012); cultural participation (Novak-Leonard and Brown 2011); and creative cities (Landry and Hyams 2012). Other approaches focus on digital impacts (Tanner 2012) and societal, environmental, health, and educational impacts (Matarasso 1997; Belfiore and Bennett 2007,2008; UK Film Council 2009). 'Holistic' approaches combining economic and non-economic measures and quantitative and qualitative techniques in an 'overarching valuation framework' have also been proposed, for example by Donovan (2013: 13).

Yet, as the third paragraph quoted above suggests, the attempt by institutional managers to answer the exam questions posed by documents such as the REF circulars can obscure not just the complexity of the cultural valuing processes that they invite from 'peer' and so-called user communities (Allington 2016) but also the constructed and symbolic character of these communities and the formative power of their social and discursive encounters (Varriale 2016). In Belfiore's (2012: 110) words, a 'commodified' and defensively instrumentalist notion of value and impact has taken hold and 'derive[s] legitimacy from exchange value'. Despite continued debates in the cultural sector about the social and political nature of cultural evaluation, and despite efforts to develop ever more refined measures of the contributions of the arts and the humanities, in practice the assessment and funding procedures for research have typically foregrounded problem solution and impact indicator-driven approaches. As a result, relatively static and linear accounts of the links between research and its wider benefits have become the norm; more dynamic accounts that include, for example, normative or discursive impacts are often perceived as a risk in governance contexts, such as that of the REF. There is ample space to develop more balanced and critical conceptualizations and more in-depth, textured methodologies for exploring the contributions and value, including cultural, of research in the arts and the humanities. There is also space to mobilize further philosophical, cultural, and social theoretical resources from research in the arts and the humanities and in the social sciences to illuminate the process of cultural evaluation and to make explicit the limitations and perils of the search for universal accountability indicators.

The conceptual and methodological tools described in this article were developed with this aim in mind. They were piloted in a study on research impact, funded from the Higher Education Innovation Fund (Oancea 2011), and were found to be particularly amenable to the exploration of complex and emergent discourses and practices, such as those around discursive change, normative challenge, or the cultural value of research. This finding led to the further development and testing of these tools in a 2013–14 study of the ecologies and economy of cultural value from research, supported by the Arts and Humanities Research Council (grant AH/L005131/1). Both studies had ethical clearance from the University of Oxford.

2. Conceptual framework

We approached the studies noted above with open understandings of the notions of 'research' (which we took, largely, as 'systematic inquiry made public'—Stenhouse 1981: 104), 'impact', and 'value'. In both cases, conversations with participants started from a loose idea of 'what matters' in and about research in their fields and were guided by their further articulation of that notion, with or without the label 'impact'. We came to see research impact as (a contribution to) making a difference to any aspects of individuals', organizations', communities', and other sociocultural entities' lives, knowledge, and actions. The difference made could be positive and negative, attributable or not, and measurable and narrated: the distinctions between these categories hinge on valuation processes that are contextual, relational, and historical.

As explained in Oancea, Florez-Petour and Atkinson (2015), we shared an initial sense of culture as 'a whole way of life' (Williams 1958) consisting of 'the whole range of practices and representations through which a social group's reality (or realities) is constructed or maintained' (Frow 1995: 3). Valuing practices arise out of 'a complex interplay between institutional structures, interpretive communities, and the idiosyncrasies of individual[s]' (Felski 2008: 20) and involve both 'prizing' (holding dear or in high regard) and 'appraising' (assigning value through comparison—Dewey 1939: 5) of particular cultural forms. As a result, we accepted that there was not a single notion of cultural value from research, but rather a discursive space filled with overlapping and contested interpretations and shot through with currents of structural power and politics. It is this space that we set out to explore. Thus, our study of the valuing of arts and humanities research as a cultural form combined the following: a sociohistorical account of research, which we elicited through interview conversations on the history, challenges, and structures of different projects or areas of research (Oancea, Florez-Petour and Atkinson 2015); an understanding of its 'valuing communities' (Allington 2016), which in our study involved the mapping of the information, material, and human resources mobilized in the valorization of research and of the history of relationships established in that process; and an exploration of the 'social encounters' (Varriale 2016) between the two, as expressed in our study through narrative accounts of the meanings and consequences of concrete interactions.

Key to this conceptualization is a relational understanding of research, its influence and its valuation. Admittedly, such understanding is already popular among studies of knowledge exchange and research impact and value. For example, Jessani, Boulay, and Bennett (2016) use standard quantitative social network analysis (SNA) techniques to map the connections between schools of public health and national government in Kenya and to identify individual knowledge brokers. Further, the 'productive interactions' approach (Molas-Gallart and Tang 2011; Spaapen and van Drooge 2011; de Jong et al. 2014) focuses on instances of knowledge exchange between researchers and 'stakeholders', conceived as direct and indirect 'interactions', to explore the dynamics specific to achieve research impact in 'adhocracies' such as the social sciences and the humanities. This approach recognizes the importance of process factors within networks of 'knowledge production' and 'use' for the assessment of the contributions of research to societal impact. In economics and organizational studies, various techniques for analysing the creation, conversion, and circulation of tangible and

intangible value have also been proposed. Value is described in this literature as ‘an emergent property’ of networks (Allee 2008: 8); ‘value constellations’ are contingent on interactions in networks of co-production (Normann and Ramirez 1993). Researchers in Sociocultural psychology and cultural ecology, as well as complexity and ecosystems theorists use ideas such as emergence, interpretation, non-linearity, holism, and enaction to explore relationships and interactions between complex systems (that of cultural valuation included) and their environments (Sharpe 2010; Geyer 2012; Tudge et al. 2012).

However, the attempts to map the interactions that are conducive to impact and/or value in terms of networks often do not engage with the issues of structural inequalities, positioning, and power that are specific to the dynamics of research in its various contexts of production, use, and benefit. A particularly strong strand of critique argues that the main weakness of SNA and its associated concepts is that they attempt to bypass, rather than make explicit the ‘fundamental relationship between cultural value and inequality’ (O’Brien and Oakley 2014: 3; see also Savage and Silva 2013). Many such critiques draw on the work of Bourdieu to support, instead, approaches that engage directly with social stratification and social inequalities, such as field analysis or multiple correspondence analysis. Some of this literature applies and expands Bourdieu’s ‘relational philosophy of science’ (1994: vii) to reveal the structural inequalities and asymmetries of power underpinning the social organization of taste. For example, Bennett et al. (2009) draw on Bourdieu (1984) to understand patterns of cultural participation and taste in Britain both in terms of their structural logic (mapped through replication of Bourdieu’s multiple correspondence analysis) and in terms of specific individuals’ cultural practices and tastes (explored through qualitative interviews and focus groups). Reflecting on this project, Silva, Warde and Wright (2009: 299) note how ‘mixing methods is the most productive strategy for the investigation of complex social phenomena’ such as cultural life in contemporary Britain.

Such emphasis on mixing methods and complex phenomena suggests an opening in the literature towards theoretical and methodological approaches that, rather than posing a sharp conceptual contrast between field and network, aim instead to bring together structural patterns and individual attributes by emphasizing concrete connections, interactions, and networks. For example, De Nooy (2003: 323–4) argues that (Bourdieuian) objective, or structural, relations only become operative through specific interactions in a field, and that for the study of the later network analysis is ‘indispensable’. In the same vein, Allington (2016) mobilizes SNA to study ‘mutually-valuing peer groups operating within cultural fields’, a concept that he identifies with the notion of k-core proposed by SNA (Seidman 1983); while Griffiths (2010) combines network analysis and elite theory to study the ties between academics and Westminster quangos. Bottero and Crossley (2011: 99–106) go further and argue that the gap between Bourdieu’s ‘field’, as a ‘theoretical space of objective relations’ and Becker’s (1982) social ‘worlds’, as ‘webs and systems of direct and indirect links’, can be bridged by SNA’s ‘networks’, as maps of social ties in the ‘space of cultural production’ that ‘allow “world” analysis to speak to field analysis without sacrificing its strengths’.

Networks, interactions, plurality, and contestation are thus themes richly echoed in the various strands of the literature on cultural value, many of which are also open to qualitative explorations of networks. For example, Varriale (2016: 160–1) expands on Bourdieu to develop a relational theory of cultural evaluation ‘as a social encounter between the dispositions of social actors (i.e. their habitus) and the properties of cultural objects’. Further strands of

the literature draw on critical theory, postcolonial scholarship, critical discourse analysis, post-structuralism, or feminism to reflect on the relationship between cultural valuation and configurations of power (Selwood 2010; Lee, Oakley and Naylor 2011). Post-critical and non-representational understandings of cultural value explore the idea of rhizomatic cultural practices through distributed (digital) networks (Thrift 2008; Walsh, Dewdney and Dibosa 2012). At the same time, attention is given to the transience and fluidity of networks, themselves seen as ‘cultural assemblages’ rather than ‘organisms’ (DeLanda 2006); in such assemblages, fine-grained analysis is possible, but a full picture remains elusive.

Although historically SNA typically foregrounded quantitative techniques for exploring and visualizing data, contemporary network-based approaches are beginning to blur ‘the traditional divide between qualitative and quantitative strategies and include... statistical, algebraic, discursive and cultural’ approaches (Carolan 2014: 37). This article presents a qualitative approach geared towards co-constructed, participative, cultural-discursive network analysis. This approach is rooted in literature that strives to pay close attention to concrete interactions and individual relationships (through mapping specific ties), but without obscuring relationships of power, stratification, and inequalities (a goal pursued through thematic analysis of semi-structured and participative interview data, reported in Oancea, Florez-Petour and Atkinson 2015).

3. Configurative and aggregative methodologies

We use the terms ‘configurative’ and ‘aggregative’ (inspired by Gough, Oliver and Thomas 2012) to distinguish between methodological approaches that aim mainly to achieve depth and richness in describing and understanding research value and impact, and approaches that emphasize breadth, precision, and explanatory power as their main aims.

Aggregative approaches prioritize integration of data in estimates of ‘common patterns, characteristics and general trends that a diverse population shares’ (Molas-Gallart 2014: 6). For example, Ovseiko, Oancea and Buchan (2012) tracked the rise in importance of aggregate indicators of research impacts (with application to clinical medicine research) over the past two decades and assessed the likelihood of obtaining valid and reliable measurements against each of them. The aggregate indicators considered by Ovseiko, Oancea and Buchan (2012) included measures of cultural enrichment and public engagement with science and research, informing policymaking, business impacts, impacts through skills, health, social welfare, social cohesion, national security, and other quality of life benefits. Similar measures have been used in studies of, for example, cultural capital, wealth creation in creative sectors, and cultural participation. Some of the indices and indicators mentioned in the introduction to this article are similar attempts at validating ‘aggregative’ measures of the value of culture.

In contrast, configurative approaches explore and articulate relationships, interactions, texture, and conceptual and empirical diversity. Despite their recognizable connection with the modes of inquiry specific to the arts and humanities, configurative approaches are less systematically explored at the moment in the literatures on research impact and value, in favour of overwhelming attention to aggregative (particularly retrospective) methods.

Figure 1 gives our overview of the methodological landscape of cultural value by presenting the *aggregative/configurative* distinction

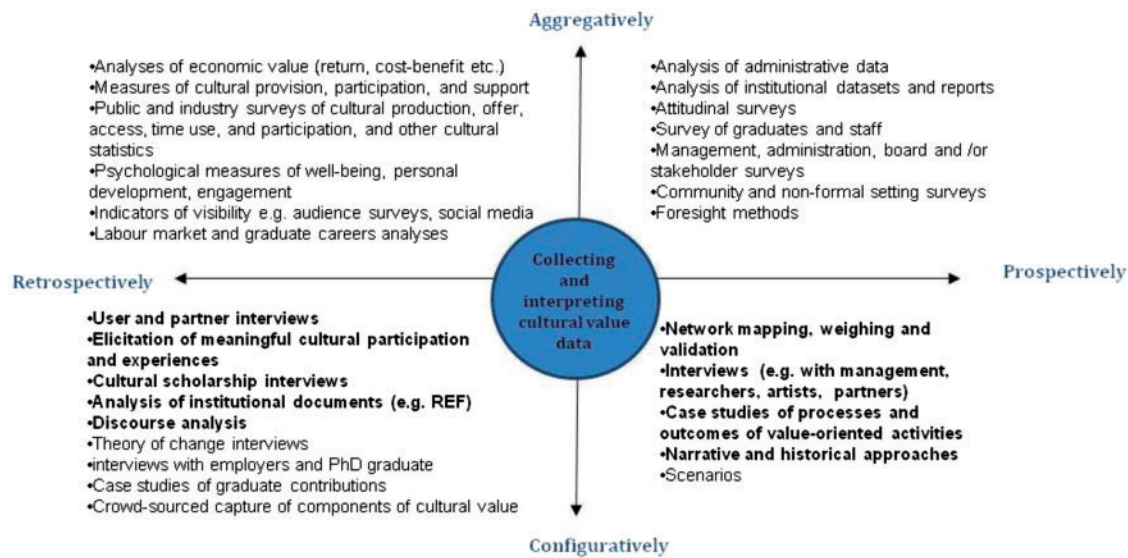


Figure 1. Methodological landscape of cultural value analysis.

as a methodological continuum, cross-cut with another continuum of articulations of value, from *retrospective* (from evidence of value and impact to the research underpinning them) to *prospective* (from current research towards value). The actual descriptors included in each quadrant are only indicative of the range of approaches currently in use, while the descriptors highlighted in bold indicate possible methodological affinities with our study.

The two studies that led to the development of the approach described in this article aimed to develop ‘configurative’ approaches that were directly relevant to modes of inquiry in the arts and the humanities and worked as alternative or complementary approaches to aggregate measures. This aim ties in with the theoretical interest, outlined above, in the conceptual and methodological relevance of networks, interaction, intersubjectivity, texture, and flows in building an understanding of the discourses, practices, and power relations involved in cultural valuation.

4. Qualitative network mapping and analysis

The approach, developed and tested via extended interviews conducted as part of the impact study (Oancea 2011) and the cultural value study (Oancea, Florez-Petour and Atkinson 2015) mentioned above, uses co-constructed, qualitatively grounded network diagrams based on structured elicitation of information from respondents and on their assessment of the relative strengths of the different flows and relationships relevant to creating, articulating, and demonstrating value. The process consists of:

- a. initial data elicitation through semi-structured interviews with a defined network-mapping component;
- b. digitization of the network map and cross-checking with the interview transcripts;
- c. follow-up communication aimed to extend and organize information about the composition and features of the network and about the relationships and flows that constitute it;

- d. refinement of the network map visualization and participant validation; and
- e. analysis and integration.

During the semi-structured, 40-min long, face-to-face interviews (the protocol for which is described in Appendix 1), the participants and the researcher jointly generate a hand-drawn diagram of the network surrounding the specific work that is the focus of the interview. The focus can be a research project, but also an individual’s long-term research activity, a major output, a programme or centre, or an organization’s work in other sectors (e.g. in the case of interviews with users, partners, commissioners, or beneficiaries of research). The process requires a recording device, a drawing pad (paper or electronic), and coloured pencils or a stylus and colour selector.

The diagrams are digitized by the researcher after the interview and sent back to the participant. In the follow-on stage, either face-to-face, via email conversations, or through document sharing, the participants can respond to the digitized diagrams, add to or amend them, and further rate the intensity of the exchanges of information, human and physical resources that describe each of the relationships identified. The researcher redraws the networks with any amendments and additions and colour codes them (in the case of the diagrams that illustrate this article, into ‘external’, ‘university’, ‘department/school’, and ‘individual/team’ levels—Figs 2–5). In addition, the interview recordings are transcribed in full and used to cross-check information, as well as being saved in anonymized format for subsequent analysis. Where more than one respondent (e.g. a researcher and a user or collaborator) are interviewed about the same project, their maps are compared and merged. The final maps are sent to the interviewees with an invitation to offer any further feedback and validation.

The qualitative features of the networks studied via this method, which also offer the framework for the analysis of the network maps produced, are the *composition* (nodes and relationships), *breadth* (reach and diversity), *flows* (between research and other communities), and *content* (qualitative commentary by participants). The *nodes* in these networks include agents such as researchers, steering and funding bodies, administrators, partners, users, direct beneficiaries, and

other relevant agencies. These agents enter into primary and secondary *relationships* among themselves. Such relationships may be direct, indirect (e.g. relationships that ‘bridge’ between others), or fuzzy (such as incipient, dormant, or incidental relationships). The *flows* may be univocal (one way), reciprocal, or undetermined.

Alongside these core elements, the maps also include basic subjective ratings by the participants of the *flows* of information, human resources (including skills, time, and non-formal investment), and physical resources (material and financial) that constitute each relationship. The participants identify the relevant flows and rate their intensity on a scale from 0 (none) to 1 (weak), 2 (moderate), and 3 (strong). Negative flows may also be included (‘-1’), that is, where parts of the network may influence negatively or constrain the generation and enactment of impact and value, or where they may reduce the flows between the project participants and other nodes.

The development of a configurative network map through qualitative interviewing includes the following elements (which, alongside questions about conceptions of impact and value and narratives of enactment, can operate as a guide for designing a protocol for further research):

1. Nodes:
 - a. Researchers and research organizations: owners, collaborators, and competitors
 - b. Non-research partners, users, and direct and secondary beneficiaries
 - c. Steering and funding organizations, groups, and individuals
 - d. Administration and support organizations, groups, and individuals
 - e. Other relevant agents
2. Relationships:
 - a. Direct
 - b. Indirect (bridges)
 - c. Fuzzy (incipient, dormant, or incidental)
3. Flows:
 - a. Direction:
 - i. One-way (univocal)
 - ii. Two-way (reciprocal)
 - iii. Undetermined
 - b. Types of flows:
 1. *Information* (the volume and quality of the information and knowledge exchanged in achieving cultural value).
 2. *Human resources* (the intensity of exchanges of people, including their skills, work time, and non-formal investment).
 3. *Physical* (the volume of material resources exchanged, including financial, but also equipment and infrastructure, relative to the size and stage of the project).
 - c. Intensity and quality of flows:
 - i. Positive flows: 0 (none), 1 (weak), 2 (moderate), and 3 (strong)
 - ii. Negative flows: ‘-1’
4. Content: Participant’s qualitative comments, which are transcribed in full, on any aspects of the network, including power relationships, constraints, and inequalities, and on the practical, conceptual, or methodological merits and limitations of the maps being generated.

The analysis of the network maps thus generated pays attention to the categories above, combined with other approaches to

interview analysis, as required by the study’s research questions and theoretical framing. In addition, it looks at the overall size (wide or restricted), shape (compact or distributed), and strength (weak or strong ties) of each network.

4.2 Examples of configurative network maps

Several examples of configuration diagrams are shown in Figs 2–5. These diagrams were generated in the Arts and Humanities Council (AHRC) AHRC-funded study of cultural value in arts and humanities research, the interview findings of which were reported in Oancea, Florez-Petour and Atkinson (2015). Seeing as the maps are inevitably snapshots, two further diagrams have been turned into more dynamic online presentations, and one was taken up as a potential development and communication tool by the initiative concerned.

The study combined semi-structured interviews about conceptions, practices, challenges, merits, and limitations of cultural value with qualitative network interviews and analysis to explore the ways in which those engaged in and with university-based arts and humanities research generated, interpreted, and demonstrated the cultural value of research. In total, 69 interviews were conducted across 12 groups of arts and humanities disciplines (art and design; classics; English language and literature; history; modern languages and linguistics; music; drama, dance, and performing arts; library and information management; philosophy; theology and religious studies; museum studies and archaeology; and digital humanities). The interviewees were selected using specific criteria of research intensity in these disciplines from different types of HEIs (pre-20th C; 20th C pre-1992; post-1992; specialist and other) from different locations in the UK. Higher-education participants included heads of department, directors of research, impact and knowledge exchange staff, administrators, and researchers at all stages of career (including principal investigators—PIs—and co-investigators—Co-Is—on specific research projects).

Within each institution and discipline, the focus of the network-focused interviews was on research projects, selected with the assistance of participants. These networks map the connections between respondents (or their projects/units) and individuals or units that belong to other formal or non-formal organizations. Unlike quantitative network studies, the emphasis here was on the qualitative construction and interpretations of these networks by the participants. The critical filter for inclusion in the map of a particular element of the network was the extent to which the participant judged it as relevant to their own interpretation and articulation of cultural value processes and outcomes. The sample snowballed from research projects to non-academic partners, cross-sectoral initiatives, users, and beneficiaries. In addition, the sample included wider (cross-disciplinary, cross-sectoral, or cross-institutional) value-oriented initiatives, again identified with advice from the participants.

Table 1 summarizes the interview data about participants’ descriptions of the 24 specific projects and initiatives explored in this study; as such, the table is not a description of the wider fields of research in the arts and the humanities nor is it a distillation of the interpretations of cultural value criss-crossing them (discussed in Oancea, Florez-Petour and Atkinson 2015).

Overall, the 24 configuration diagrams generated in the study included information about (and from) a wide range of individual, collective, or institutional partners that interacted and collaborated directly with the PI or the research team in the development and

implementation of the projects or initiatives studied. These partners included archives and libraries, museums and art galleries (curators and artists), heritage institutions and locations, business and industry, NGOs and charities, international organizations, professionals and experts from different fields, journalists, technology development centres, volunteers, activists, other internal or external higher-education partners, and students.

Depending on the field and the type of project, the boundaries that circumscribe the ambit of users and beneficiaries may be difficult to specify. Still, in most projects, the more direct users and beneficiaries were identified clearly by participants, along with a more diffuse set, such as the general public, the local community, a general audience, or simply 'the society'. The users and beneficiaries specified were diverse: archive users; museum visitors; schools; community organizations; the media; businesses and industry; political actors, policymakers, and government organizations; public and private service institutions; clubs; volunteers; professional bodies; owners and custodians of heritage places; local communities; activists; knowledge brokers; creative industries; the general public or media audiences; undergraduate students through teaching; and national and international scholarly communities, including other universities.

The network diagrams created in this study map these interactions from the perspective of the interviewees. The network visualizations are single-centred or multicentred, depending on the set-up of the original research. It is important to note that the centre of the map indicates the interview relationship between the participant and the researcher and does not imply that the wide range of relationships and flows (re)constructed in each diagram would naturally centre around research and researchers. One of the participants started the drawing by thinking aloud: 'I guess there's me at the centre. . . and then we've also got a whole bunch of other connections to other groups'. Another described what they had produced as a 'spider web' showing 'a loose coalition of the willing', and apologized for not making it more 'ordered', while yet another was already well into the detail of creating a diagram as a 'network of creative communities' when, prompted by the researcher to comment on its overall shape, replied that it had no centre, but 'it would be like a . . . double helix'. Thus, the diagrams are narrative devices: they visualize the account of these networks constructed through the dialogue between the researcher and the participant. Further interviews, for example, with research partners or with non-academic partners, add more perspectives to the map; they can help gradually decentre or rebalance it.

Some of the networks so constructed are expansive, reaching a range of agents through numerous indirect, bridging, and fuzzy relationships ('we've got quite a complex web of partnerships, both at national organisations but then schools, community groups and the rest'—*music participant*); others are compact, narrower in coverage, tightly connected, and with fewer but higher-intensity flows ('this network essentially encourages discussion between these three groups, which wouldn't otherwise happen'—*heritage participant*). Both 'ideal types' of networks were connected with accounts of cultural value, but the realization and appreciation of such value were conceived differently in each case, given the variability of meanings attached by participants to the notion of cultural value itself, and the absence of a 'common vocabulary' [*extra-academic partner* and *digital humanities*], shared 'terminology' [*user, arts, and design*] or 'repertoire' [*director of research* and *music*].

4.2.1 Philosophy

Figure 2, based on PI and management interviews in a Philosophy faculty, shows nodes, relationships, and flows in a single-centred network diagram of a funded, mono-institutional research project in philosophy (note that the projects and initiatives illustrated in the diagrams are not indicative of differences between disciplines, but simply a selection from the different types of networks studied; each discipline may involve a combination of types). The interviewees articulated their view of cultural value from research in terms of a 'transformative', 'deeper understanding of our place in the world, and our place in our culture, and perhaps the contingencies of our culture' (*PI, philosophy*), as well as 'making a positive difference to how people think about themselves and their environment' and make 'moral decisions'. Cultural value is 'what's left over' 'once you subtract the financial, once you subtract the policy, once you subtract the legal' (*management, philosophy*). They resisted what they saw as a top-down drive to quantify and fix it in a 'form-filling exercise' and 'narrow definitions about what can count as impact', particularly those that exclude student impact.

The diagram shows a PI- and HEI-centred network map. The one-way arrows in the diagram indicate unidirectional relationships, while the two-way arrows indicate reciprocity. Solid lines indicate direct relationships, while dotted lines show indirect ones. A fuller explanation of the diagrams and the symbols used is included in Appendix 1.

While, given the interviewees' backgrounds and positions, their accounts indicated stronger intra-institutional and academic ties than extra-institutional and extra-academic ones, the diagram also shows a model of gradual extension of the web of relationships explicitly connected to the specific research carried out by the team indicated in the orange section of the diagram through various HE institutional layers to a combination of specific (e.g. the National Health Service (NHS), Health Trust enterprises) and loosely defined (e.g. 'the media') external actors. According to the interviewees, the mechanisms through which this extension happened were dissemination, cultural influence through graduates, and formal activities aiming to facilitate mutual learning, but also through 'policy mediation' and brokering of relationship between faculty members and external partners, in particular by the head of school:

'In a figurehead role I get exposure to all sorts of environments that other folks don't, and so . . . saying, "I have a colleague whose work you might be really interested in. They do this kind of thing"' (head of school).

4.2.2 Classics

The HEI context remains central in the multi-institutional, collaborative, funded research project in Classics, mapped in Fig. 3. The project mobilized the public-facing services of the two institutions, and engaged in two-way relationships with the (larger) research core of the two units' organizational structure. The interviewees (*PI, management, and partner organization*) described their conception of cultural value as 'broaden[ing] people's cultural perspectives' (*PI, Classics*) and 'seeking to make [the past] relevant' and create impact (*faculty management*), but also as 'put[ting] pleasure in to life' by 'wrapping' it in 'culture, in social interaction, in language, and beautiful objects' (*museum partner*). While the academic participants also noted the dangers involved in trying to produce 'specific criteria' for value, as it may lead to imposing 'artificial categories' and

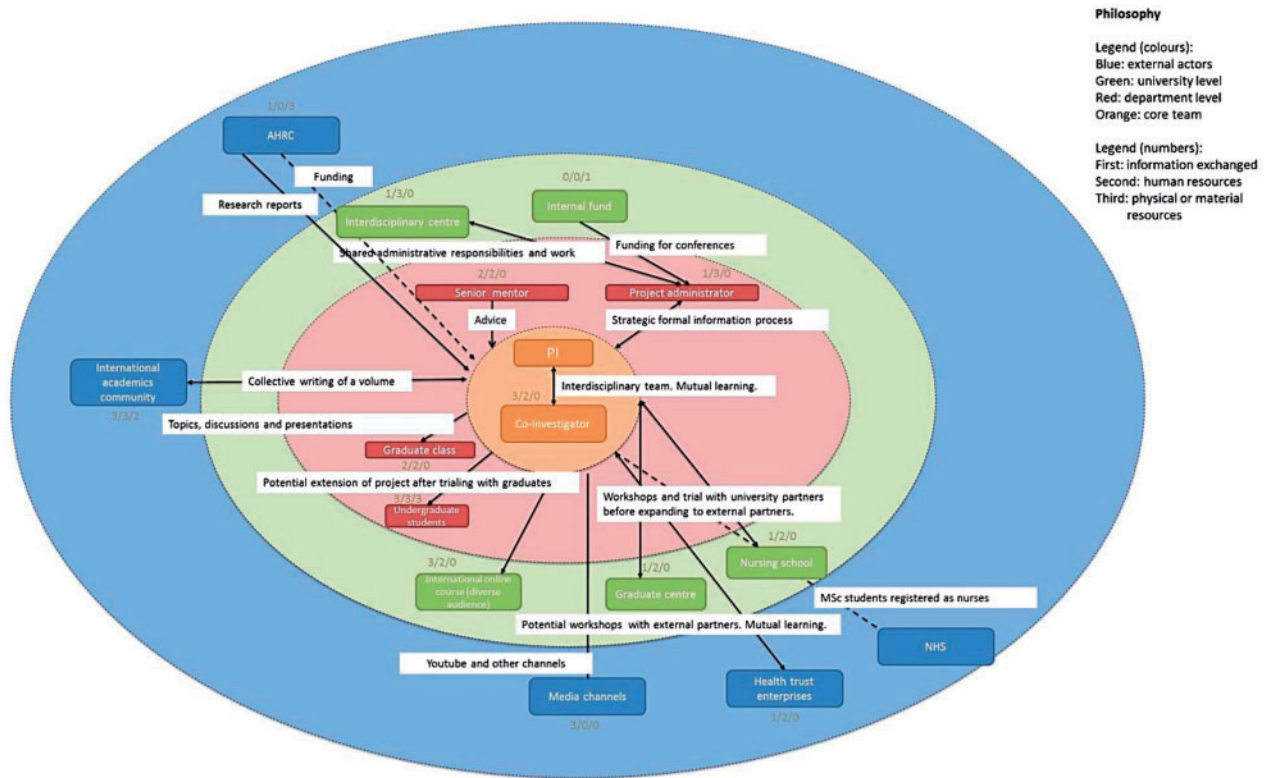


Figure 2. Externally funded research project (philosophy).

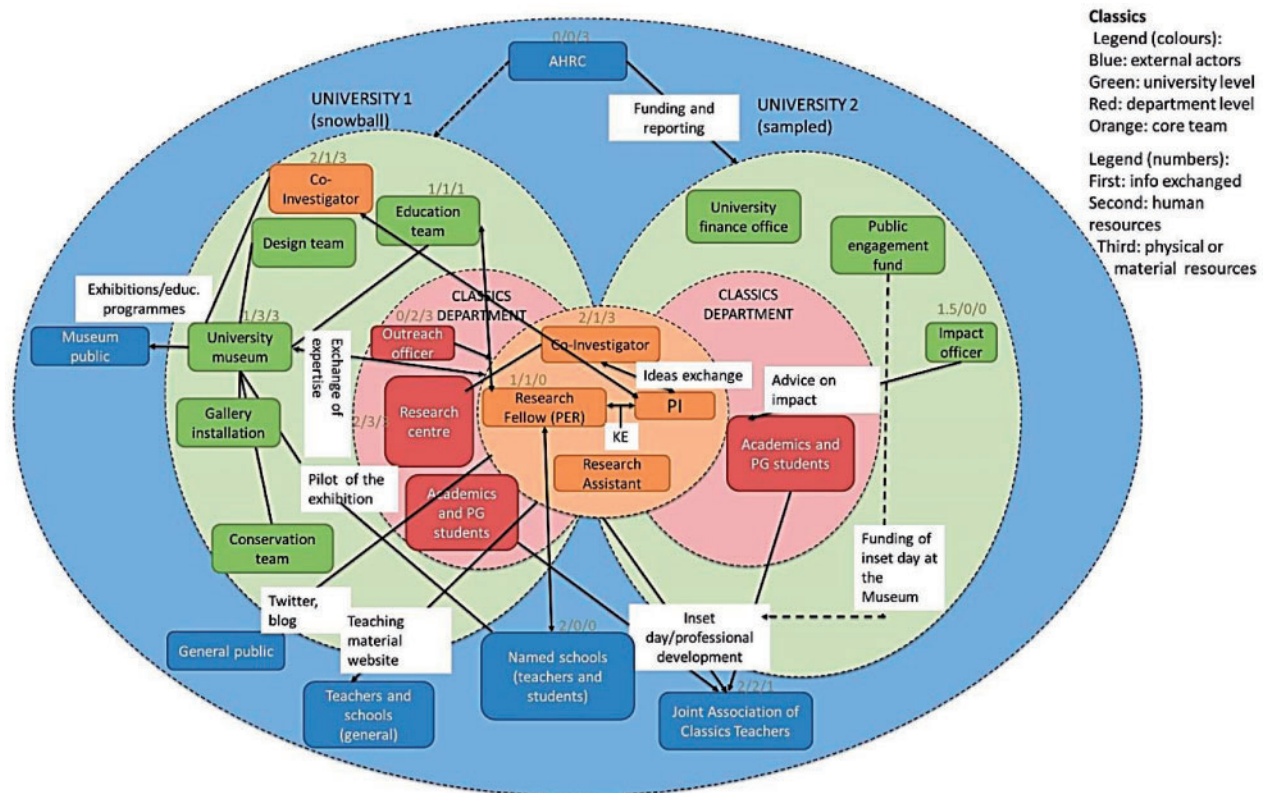


Figure 3. Multi-institutional collaborative project (classics).

'intruding' on individuals engaging with research and museums, the museum partner expressed more familiarity with and acceptance of various measures of participation, engagement, and response, including quantitative. They argued that discussions around cultural value in Classics are framed by 'the prejudice that classics is of limited value', on the one hand, and 'snobby' ideas about 'the kinds of media in which things appear', on the other (*museum partner*).

The HEI-external space in Fig. 3 is populated by generic (e.g. 'museum publics') and specific actors, including schools and professional associations. The flows between the researchers and actors external to the two HEIs were largely from research to wider audiences and were enabled by exhibitions, social media engagement, provision of continued professional development, and teaching materials.

4.2.3 Performing arts

The balance between HEI-internal and external actors and the direction of the interactions changes clearly, as we move to Fig. 4. The value-oriented initiative (with an important component of drama and performing arts) mapped in the diagram is jointly directed by HEI and non-HEI actors, with a central role being played by a community organization. The interviewees included the PI, Co-I, academics with knowledge exchange responsibilities, management, and several beneficiaries. They spoke of the value of work in drama and theatre in terms of 'helping a society to understand itself' by 'draw[ing] attention to areas in a society that are neglected' and to 'injustices'. Such value overlaps with the notion of demonstrable impact and ranges from 'the value that an individual would place upon their participation or engagement in the arts' to 'wider benefits' to society: 'it's no bad thing to have to define the change that you are going to try to affect through your work'(PI). The beneficiaries interviewed emphasized, in turn, the transformative, 'therapeutic', and confidence-building benefits of 'feeling connected to people and feeling able to express yourself' verbally and non-verbally through art.

The interviewees warned against a focus on 'economic value' that may be inherent to the notion of the cultural value, with all the monetary implications arising from it, but also against a perception of the arts as simply 'fun' or 'linked to genius and creativity', and thus impossible to justify for funding in concrete terms. The intense emotional experience that may be facilitated by drama also makes it 'very difficult' to probe, for the sake of feedback, and ask, 'and will this change the way you think about your practice?' (*KE academic*).

The organizational structure of initiatives such as that shown in Fig. 4 is complex and also loose, as staff may be deployed temporarily or on a part-time basis to support the initiative, and may be moving in and out of performing various roles as the work evolves. What is striking about Fig. 4 is not only how densely populated the blue area is (external actors) but also how strong, bidirectional and multidirectional, and diverse the relationships are between these actors and the team running the initiative.

4.2.4 Arts and design

Finally, Fig. 5 depicts an institution-wide research and enterprise initiative in a specialist arts and design institution. This activity no longer is centred on a specific nucleus of research, but aims to mobilize value creation and articulation across the institution's portfolio of practice, development, and research.

The structure of the initiative becomes, thus, even looser and more complex—participants suggested a double helix imagery, with

cross-points at various places along the way, as more specific projects develop (an example of which is given in the 'zooming in' bubble in the figure). In addition, Fig. 5 highlights the dynamic nature of these relationships and flows over time, as a particular project or initiative unfolds—in the words of a participant, a 'fluid and dynamic structure, so you allow [for] more connections, more communities, more networking' to happen. This aspect can be further teased out in Figs 2–4, too, but it is particularly striking in Fig. 5.

Participants (entrepreneurship staff and management) noted the business and 'commercial benefit' and the 'applied use of art, to benefit civil society'—for example, in hospitals, community centres and other public spaces—as well as 'the cultural importance . . . to actually make it accessible to more people'. They also placed strong emphasis on student experience as cultural value, as on the mutual learning taking place across the worlds of academia and business. The dual challenge that they identified was that of building the trust and buy-in of academics and students internally, whilst making sure that the process is not over-managed because 'as you start framing it in a really serviced, managed way, you kill the creative process' (enterprise staff).

4.2.5 Demonstrating value

Demonstrating cultural value was seen by participants across the entire study as neither an easy task nor a particularly useful one if framed exclusively in the context of performative assessment of research, that is, of the 'intellectual equivalent of a tick box' (researcher, digital humanities) which 'felt very constrained', as the measurements that 'have to translate soft outcomes into hard quantifiable outcomes' (researcher, performing arts) do not 'really reflect the public engagement with lots of people's work' (partner, Classics).

Nonetheless, they elaborated on broad notions of demonstrating cultural value, which they described as a multipronged task. In this broad sense, demonstrating cultural value may involve critical engagement with cultural value circuits, 'fields' or 'worlds'—for example, culture–class analysis, critical discourse analysis, or explorations of power relations. It can also be seen as an effort to trace the influences of arts and humanities research in society and culture, for example through: philosophical, sociological, or psychological exploration of human, organizational, and societal values; analysis of cultural shifts and discursive 'sea changes'; ethnographic studies; estimates of the wider economic benefits obtained through arts and humanities research; mapping of the interactions between higher education-based arts and humanities research, the wider cultural sector, and other sectors; or exploration of 'ripple effects', by following the gradual, often unexpected and indirect, reach of research within and across cultures. All of the above examples were mentioned explicitly in our interviews; a full account of the participants' interpretations and critiques of the notion of cultural value is given in Oancea, Florez-Petour and Atkinson (2015).

The interviewees also mentioned mid-range methods for capturing and demonstrating value, which covered the full qualitative and quantitative spectrum. They ranged from (dominantly) qualitative methods (e.g. interviews; comment cards; workshops and focus groups; case studies; participant observation; and visual and creative methods such as drawing, film, e-book, and documentary) to (dominantly) quantitative methods (e.g. surveys and feedback questionnaires; quasi-experiments; econometrics; indices and standardized measures; secondary analysis of, for example, administrative data or

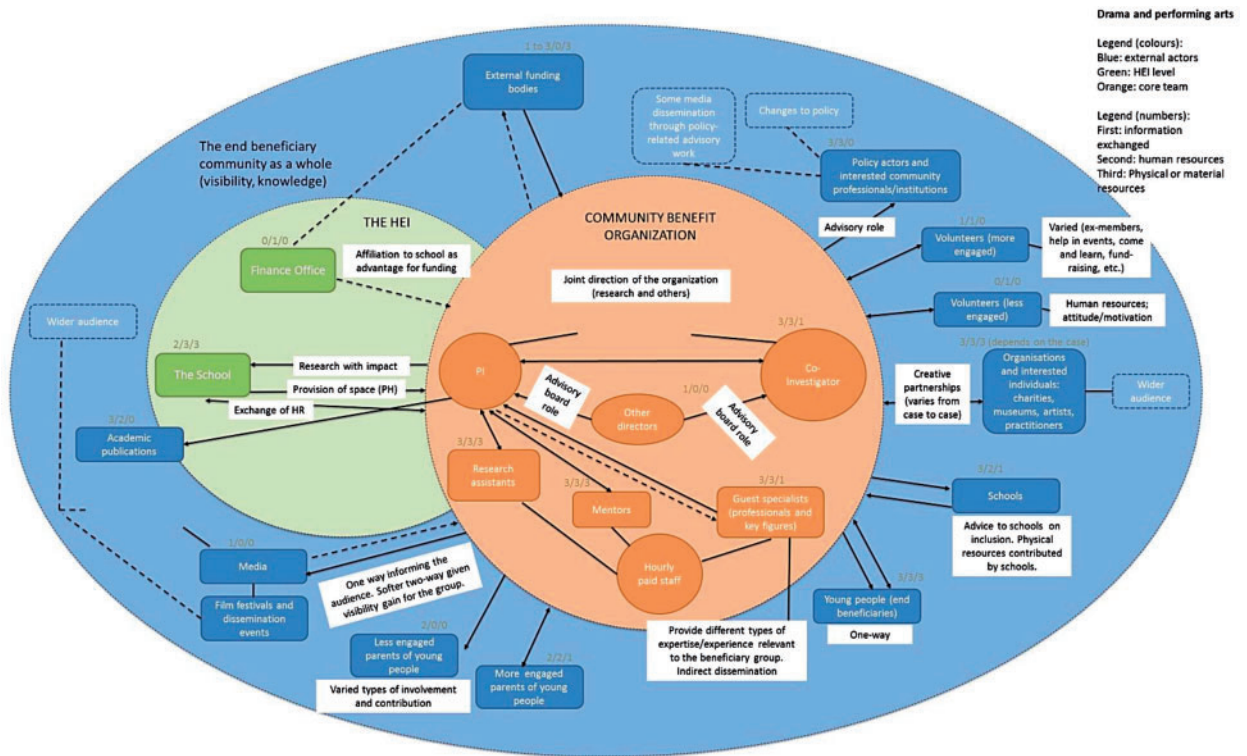


Figure 4: Community-centred value-oriented initiative (performing arts).

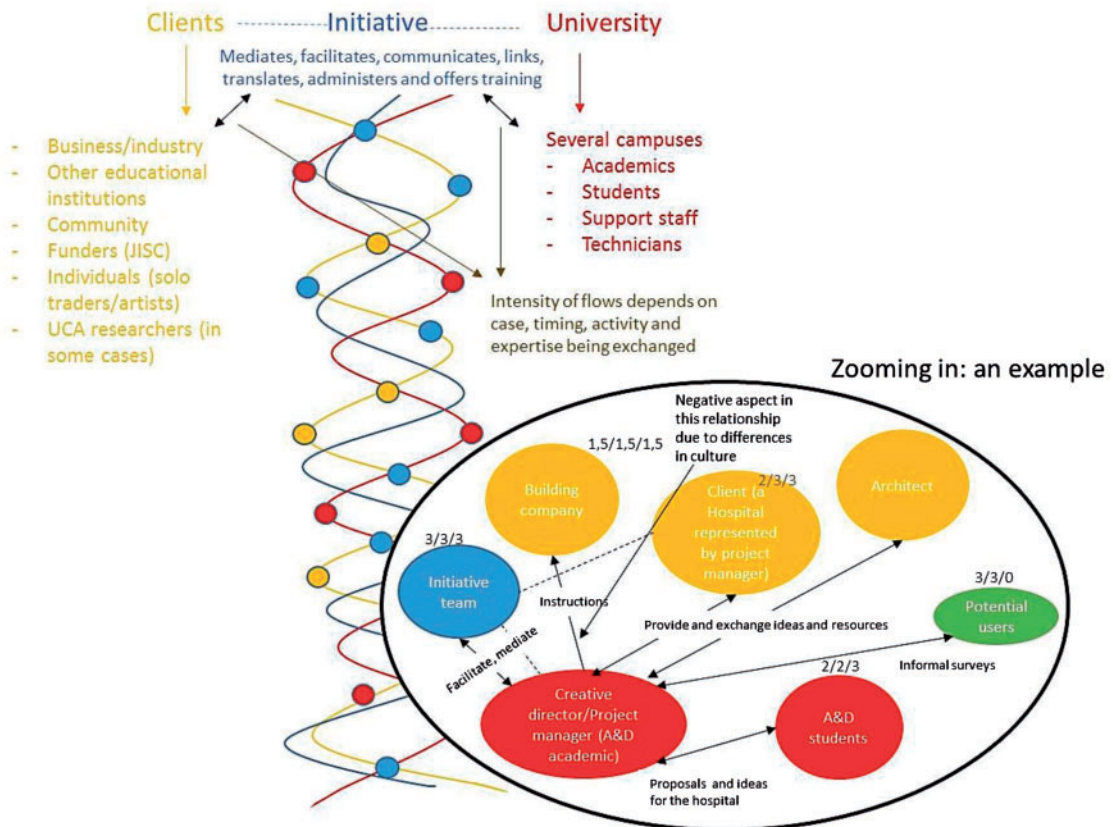


Figure 5: Value-oriented initiative (art and design).

Table 1. Types of projects and initiatives mapped in the study, as described by participants

| Main focus of project/initiative | Summary description (based on interviews) | Cultural value/s articulated by interviewees |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Community | Projects and initiatives that work with a particular group or community to address particular challenges or support grassroots cultural activity | Community building, belonging, solidarity, understanding, change, resilience, voice, visibility, recognition, and action |
| Archive and/or information | Projects and initiatives that gather, connect, and maintain material that has historical and cultural relevance and make it publicly available to a wide audience, in analogue or digital form | Organizing, augmenting, connecting, and democratizing knowledge and information |
| Heritage | Projects and initiatives that aim to preserve and make more available to the community places of historical interest | Preserving, increasing, and democratizing knowledge of, and material links with, the past and place |
| Exhibition | Projects and initiatives that curate and offer to the public collections of objects identified as culturally significant and which may have been previously unknown or not seen from the perspective of the exhibition | Creating, increasing, and democratizing knowledge and cultural experience |
| Creative practice and performance | Projects and initiatives that explore or mediate cultural expression, performance, and appreciation | Enabling individual or shared experiences of, for example, creative expression, participation, enjoyment, healing, or empowerment |
| Policy | Projects or initiatives that use research to contribute to informed policy and to political change | Shaping policy discourses, vocabularies, understanding, and horizons of action |
| Teaching and learning | Projects and initiatives that transform the knowledge created and acquired through research into pedagogical activities and resources to teach undergraduate or graduate students and professionals | Education |
| Enterprise | Projects and initiatives in which clients are paying for a service or product provided by arts and humanities institutions | Connecting creative practice, scholarship, and business and economic values |

‘big data’; citation analysis; network analysis; and online tracking). Mixed approaches were also suggested (e.g. user testing of pilot resources, repurposing academic activities such as conferences and reviews, and evaluations of teaching and learning). Although the participants commented repeatedly on how untested and/or fragmented some of these approaches were, there was also a clear sense of fruitful circulation between tools and methods developed from arts and humanities research, and other evaluative and action-oriented approaches from the cultural sector and the social sciences.

Finally, more specific indicators and forms of evidencing value mentioned by participants included narratives and testimonials; unsolicited reviews and comments; visitor and audience metrics (e.g. number of visitors, repeat visits, and length of stay); measures of the volume and intensity of activity and engagement (e.g. number of events, number of participants, and level of investment); education, training, and continuing Professional Development indicators (e.g. enrolment, attainment completion, and number of programmes delivered); psychometric measures and indicators of satisfaction; Web and alternative metrics (e.g. indicators of social media impact, usage statistics, search engine hits, connectivity, etc.); statistical analysis of for example, survey data; and financial evidence (income, corporate sponsorship, charges and subscriptions, estimates of cash value, and sales figures). Many participants were careful to note that they only found such indicators meaningful when integrated in more nuanced narratives.

Interestingly, as some of the participants noted, the more specific the method and the form of evidence mentioned, the more blurred the distinction between cultural value and ‘impact’ (of a UK REF type) seemed to become. The fragmented and unevenly recognized and used array of methods and forms of evidence available meant

that many participants reported feeling pressured to ‘play safe’ for research assessment in REF 2014 by sticking to the measurable and demonstrable, rather than making wider claims for cultural value. During the interviews, they made a case for more integrated approaches in the arts and the humanities’ ‘own terms’, that is, that remain in tune with their academic norms of scholarly argumentation, criticality, and intellectual integrity.

5 Conclusions

This article presented a methodological approach proposed initially in Oancea (2011) and refined and tested in a study funded by the AHRC under its Cultural Value project. Subject to further testing and refinement, the approach that we have developed is amenable to use in research, evaluation, communication, and developmental work in HEIs and funding organizations.

Overall, our study highlighted the conceptual and methodological relevance of networks, interaction, intersubjectivity, configurations, texture, and flows in building an understanding of the discourses and practices of both research impact and cultural value. The techniques described in this article concentrate on eliciting and mapping individual accounts of concrete relationships between specific individuals, groups, and organizations. However, they should not be taken as implying that concrete interactions are not shaped by structural relations (such as the type of HEI in which each project was located or the academic position of the respondent) and historical reproduction of inequalities (e.g. on lines of gender, ethnic background, or age). The currents of power flowing through these accounts can also be explored qualitatively using the interview data generated; the diagrams presented in this article are inevitably at a

remote from the interviews conducted and work in tandem with them.

Our evolving design enabled us to take guidance from the participants to follow such configurations flexibly. This process has shown us both the fruitfulness and the limitations of the form of qualitative network analysis (or configuration tracing and analysis) that we have developed.

The examples discussed in this article illustrate some of the *benefits*, in terms of fit, texture, diversity, ecology, nuance, developmental, and use value, of using the approach and tools we have developed and tested.

A particular advantage of this approach is its fit to the study of cultural value and impact in different disciplinary and institutional settings. The assessment and in particular the quantification of impact and cultural value are still relatively new sets of practices in relation to academic research; there is as yet limited theoretical and empirical understanding of what the divisions among them might be, of how differential associations may develop, or of the patterns of competition and collaboration that may arise. No finite population is defined or database is available from which to extract empirical data about channels, interactions, and ties. These practices and their conventions evolve just as the communities, and discourses of valorization that surround them are constructed. Thus, impact practices and discourses of value are mutually constitutive.

The diagrams are useful tools for cross-disciplinary mapping and comparison of different modes of collaboration, research visibility, and use/response, including those that are particularly relevant to the arts and the humanities. The approach enables the tailoring and variation of methods for eliciting information and for visualizing data to the diversity of research organization, institutional settings, and fields and modes of inquiry. In addition, the approach takes into account the insight that the various interpretations of cultural value may have family resemblances, but elude a full and stable 'definition'.

As argued above, the approach aims to support a focus on the relationships between agents, practices, and environments, and a move beyond sharp and simplistic dichotomies. Through this methodology, for example, seamless connections may be revealed between research generation and cultural benefits in the arts, which can be obscured by the requirement (e.g. in the REF) to separate sharply, for assessment purposes, scholarly research from creative practice and cultural experience. The focus on ecologies of research and creative practice is a particular strength of this approach.

Further development of the visualization technique described in this article, using more interactive technologies, adds more depth and qualitative nuance by allowing for a more dynamic presentation with a time dimension. We are currently working on developing a technical solution for the production of dynamic visualizations and would welcome dialogue with other researchers and potential users.

Several participants commented on how the mapping exercise helped bring together what may have seemed parallel or disparate threads of interaction, and to see and assess the web of relationships surrounding their work. This may have developmental value, through working with the participants in co-producing and refining the visualizations for different purposes. It was also seen as useful in communication about a project or initiative, in organizing, recording, and updating information about research impact, and in informing strategic discussions about research in teams, departments, or HEIs. A PI in history commented while working on the initial diagram with the researcher:

'This is quite challenging actually! ... It makes you think about it in a different way—all the people that are involved in it and connected to it'

Finally, the diagrams were stimuli for further questions and for challenging pre-constructed or unfolding narratives. For example, each diagram started with an actor's account; as the nodes in the diagram are expanded into new interviews, the centrality of this actor in the diagram can be challenged, and their account of the type and strengths of ties can be more explicitly linked to their positional advantages and disadvantages.

At the same time, however, the two studies have pinpointed several *challenges* in the use of these methods and tools.

For example, like in many other forms of research and evaluation, defining the units of analysis is not always straightforward. The definition of 'project' in arts and humanities research may include both externally funded projects with a specific time limit, and a looser sense of a strand of research around the same ideas, for which researchers may have received different types of funding, including just internal funding or no funding at all, and that has lasted for several years. Thus, using the timeframe of external funding to define the boundaries of a project is not always appropriate in these fields and contexts.

Further, participants' engagement in the network construction and mapping process may be shaped by their positions and pre-existing responses to current debates around impact and value in various public arenas. For example, some of our participants started off by assuming that the method came with a predefined idea of cultural value and expected to have it fully set out at the start of the mapping interview. They had strong reservations about any attempt to reduce cultural value to a set of metrics and were wary of methodologies that slip into reductionist indicators and do not engage openly with power relations and inequality. In the words of one participant, 'the way cultural value is rendered... is an expression of power dynamics in our society; so what's given value... depends on the dominant discourse' (*researcher, interdisciplinary*). Some participants were also concerned about the subsequent use of the findings and about excessive emphasis on the connection with non-academic partners; some were clear that they did not support the view that every project needs to demonstrate such links. Ultimately, the very act of trying to define cultural value reveals 'different power relations and different stakes in what and how cultural value might be pinned down' (*researcher, engagement initiative*), particularly if the definition attempts to defend a top-down research policy or public investment agenda. The language used in the interviews and in the wider descriptions of the project is key in acknowledging and addressing these reservations; rather than being given by the researchers, the terms in which the interviews and the diagrams are constructed need to be as participant-led as possible.

The variable availability and locus of relevant information is also a challenge. PIs and/or key partners do not always hold a complete view of the breadth of their projects, and the network expands when one speaks to users, other partners, media, and the Web. The 'ripple effect' increases. A sense of the network is obtained using different sources and talking to different actors, although there are still probably untraceable outer layers and ongoing changes.

Sometimes the interviewees found it difficult to determine if relationships were one-/two-way, and in relation to what. They also struggled on occasion with determining intensities in comparative terms, that is, how they would characterize the intensity of one

exchange in comparison with another, with other actors in the network, or how intense an exchange was in the context of the whole project.

But in our view, the major challenge in exploring practices associated with a notion as open to interpretation as cultural value, and in so vast a field, arises from the complexity and dynamics over time of the direct and indirect interactions to be traced, and from the uneven structures of power through which they flow. Assemblages of cultural value are in constant flux, and to a great extent, this observation challenges standard notions of ‘capture’, ‘recording’, and ‘measurement’. Some of our respondents were keenly aware of the conceptual, technical, practical, and political limitations of measurement in this area; in relation to the REF, for example, a participant reported: ‘we were finding all of the measures around what we do, but we don’t think/believe the measures are the sum of the impact. And that’s the challenge’. They pointed out that overemphasis on metrics distracts from the textured ecologies of creative practice, cultural participation, and scholarly inquiry through which the impact and value of research are constituted and from the political environments in which particular definitions of value take precedence over others. Addressing this challenge features highly on our agenda for further research.

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References

Allee, V. (2008) ‘Value Network Analysis and Value Conversion of Tangible and Intangible Assets’, *Journal of Intellectual Capital*, 9/1: 5–24.

Allington, D. (2016) ‘Linguistic Capital and Development Capital in a Network of Cultural Producers: Mutually Valuing Peer Groups in the Interactive Fiction Retrogaming Scene’, *Cultural Sociology*, 10/2: 267–86.

Arts and Humanities Research Council (2009) *Leading the World. The Economic Impact of UK Arts and Humanities Research*. Swindon: AHRC.

Arts Council England and BOP Consulting (2012) *Measuring the Economic Benefits of Arts and Culture. A Practical Handbook for Cultural Organisations from BOP/ACE on Economic Measurement*. London: Arts Council.

Belfiore, E. (2012) ‘Defensive Instrumentalism’ and the Legacy of New Labour’s Cultural Policies’, *Cultural Trends*, 21/2: 103–11.

Belfiore, E., and Bennett, O. (2007) ‘Determinants of Impact: Towards a Better Understanding of Encounters with the Arts’, *Cultural Trends*, 16/3: 225–75.

Belfiore, E., and Bennett, O. (2008) *The Social Impact of the Arts: An Intellectual History*. Basingstoke: Palgrave/Macmillan.

Becker, H. (1982) *Art Worlds*. Berkeley, CA: University of California Press.

Bennett, T. et al. (2009) *Culture, Class, Distinction*. London: Routledge Basingstoke: Palgrave.

Bottero, W., and Crossley, N. (2011) ‘Worlds, Fields and Networks. Becker, Bourdieu and the Structure of Social Relations’, *Cultural Sociology*, 5/1: 99–119.

Bourdieu, P. (Transl. 1984) *Distinction: A Social Critique of the Judgement of Taste*. London: Routledge.

Brown, A. S., and Novak-Leonard, J. (2007) *Assessing the Intrinsic Impacts of a Live Performance*. Fairfield, CT: WolfBrown.

Carolan, B. V. (2014) *Social Network Analysis and Education. Theory, Methods and Applications*. Thousand Oaks, CA: Sage.

Centre for Economics & Business Research (CEBR) (2013) ‘The contribution of the arts and culture to the National economy. An analysis of the macro-economic contribution of the arts and culture and of some of their indirect contributions through spillover effects felt in the wider economy’, Report for Arts Council England and the National Museums Directors’ Council. London: CEBR.

Daykin, N. et al. (2008) ‘The Impact of Participation in Performing Arts on Adolescent Health and Behavior: A Systematic Review of the Literature’, *Journal of Health Psychology*, 13: 251–26.

De Jong, S. et al. (2014) ‘Understanding Societal Impact Through Productive Interactions: ICT Research as a Case’, *Research Evaluation*, 23/2: 89–102.

DeLanda, M. (2006) *A New Philosophy of Society: Assemblage Theory and Social Complexity*. London: Continuum.

De Nooy, W. (2003) ‘Fields and Networks: Correspondence Analysis and Social Network Analysis in the Framework of Field Theory’, *Poetics*, 31: 305–27.

Donovan, C. (2013) *A Holistic Approach to Valuing our Culture: A Report to the Department for Culture, Media and Sport*. London: DCMS.

Felski, R. (2008) *Uses of Literature*. Oxford: Blackwell.

Dewey, J. (1939) ‘The Theory of Valuation’. *International Encyclopedia of Unified Science vol. II (4)*. Chicago, IL: University of Chicago Press.

ERS and ALMA UK (2011) ‘Economic Impact Toolkits for Archives, Libraries and Museums’, Final report. Newcastle upon Tyne: ERS.

Ferres, K., Adair, D., and Jones, R. (2010) ‘Cultural Indicators: Assessing the State of the Arts in Australia’, *Cultural Trends*, 19/4: 261–72.

Frow, J. (1995) *Cultural Studies and Cultural Value*. Oxford: Oxford University Press.

Geyer, R. (2012) ‘Can Complexity Move UK Policy Beyond ‘Evidence-Based Policy Making’ and the ‘Audit Culture’? Applying a ‘Complexity Cascade’ to Education and Health Policy’, *Political Studies*, 60/1: 20–43.

Gough, D., Oliver, S., and Thomas, J. (2012) *An Introduction to Systematic Reviews*. London: SAGE.

Griffiths, D. (2010) ‘Academic Influence Amongst the UK Public Elite’, *Sociology*, 44/4: 734–50.

Grossi, E. et al. (2012) ‘The Interaction between Culture, Health and Psychological Well-Being: Data Mining from the Italian Culture and Well-Being Project’, *Journal of Happiness Studies*, 13/1: 129–48.

Jackson, M. R., Kabwasa-Green, F., and Herranz, J. (2006) *Cultural Vitality in Communities: Interpretation and Indicators*. Washington, DC: Urban Institute.

Jessani, N. S., Boulay, M. G., and Bennett, S. C. (2016) ‘Do academic knowledge brokers exist? Using social network analysis to explore academic research-to-policy networks from six schools of public health in Kenya’, *Health Policy Plan*, 31/5: 600–611.

Landry, C., and Hyams, J. (2012) *The Creative City Index: Measuring the Pulse of the City*. Stroud: Comedia.

Lee, D. J., Oakley, K., and Naylor, R. (2011) ‘The Public Gets What the Public Wants? The Uses and Abuses of ‘Public Value’ in Contemporary British Cultural Policy’, *International Journal of Cultural Policy*, 17/3: 289–300.

Matarasso, f. (1997) *Use or Ornament? The Social Impact of Participation in the Arts*. London: Comedia.

- Molas-Gallart, J., and Tang, P. (2011) 'Tracing 'Productive Interactions' to Identify Social Impacts: An Example from the Social Sciences', *Research Evaluation*, 20/3: 219–26.
- Molas-Gallart, J. (2014) 'Research Evaluation and the Assessment of Public Value', *Arts and Humanities in Higher Education*, 14: 111–16.
- Normann, R., and Ramirez, R. (1993) 'From Value Chain to Value Constellation: Designing Interactive Strategy', *Harvard Business Review*, 71/4: 65–77.
- Novak-Leonard, J. L., and Brown, A. S. (2011) *Beyond Attendance: A Multi-Modal Understanding of Arts Participation*. Fairfield, CT: WolfBrown.
- O'Brien, D. (2010) *Measuring the Value of Culture: A Report to the Department for Culture Media and Sport*. London: DCMS.
- O'Brien, D., and Oakley, K. (2014) 'Cultural Value and Inequality: A Critical Literature Review', A Report Commissioned by the AHRC Cultural Value Project. <<http://www.ahrc.ac.uk/documents/project-reports-and-reviews/cultural-value-and-inequality-a-critical-literature-review/>> accessed 12 Nov 2016.
- Oancea, A. (2011) *Interpretations and Practices of Research Impact across the Range of Disciplines Report*. Oxford: Oxford University.
- Oancea, A., Florez-Petour, T., and Atkinson, J. (2015) 'The Ecologies and Economy of Cultural Value from Research', *International Journal of Cultural Policy*, 1–24. DOI:10.1080/10286632.2015.1128418.
- Onseiko, P. V., Oancea, A., and Buchan, A. M. (2012) 'Assessing Research Impact in Academic Clinical Medicine: A Study Using Research Excellence Framework Pilot Impact Indicators', *BMC Health Services Research*, 12: 478.
- Savage, M., and Silva, E. (2013) 'Field Analysis in Cultural Sociology', *Cultural Sociology*, 7/2: 111–26.
- Seidman, S. B. (1983) 'Newtork Structure and Minimum Degree', *Social Networks*, 5/3: 269–87.
- Selwood, S. (2010) *Making a Difference: The Cultural Impact of Museums*. London: NMDC.
- Sharpe, B. (2010) *Economies of Life: Patterns of Health and Wealth*. Axminster: Triarchy Press/International Futures Forum.
- Spaapen, J., and van Drooge, L. (2011) 'Introducing 'Productive Interactions' in Social Impact Assessment', *Research Evaluation*, 20/3: 211–8.
- Stenhouse, L. (1981) *What counts as research? British Journal of Educational Studies*, 29/2: 103–14.
- Stiglitz, J., Sen, A., and Fitoussi, J.-P. (2009a) 'Report by the Commission on the Measurement of Economic Performance and Social Progress'. <<http://www.stiglitz-sen-fitoussi.fr/>>
- Stiglitz, J., Sen, A., and Fitoussi, J.-P. (2009b) 'The Measurement of Economic Performance and Social Progress Revisited'. <<http://www.stiglitz-sen-fitoussi.fr/>>
- Silva, E., Warde, A., and Wright, D. (2009) 'Using Mixed Methods for Analysing Culture: The Cultural Capital and Social Exclusion Project', *Cultural Sociology*, 3: 299–316.
- Tanner, S. (2012) *Measuring the Impact of Digital Resources: The Balanced Value Impact Model*. London: King's College.
- Thrift, N. (2008) *Non-Representational Theory*. Abingdon: Routledge.
- Tudge, J. R. H. et al. (2012) 'The Cultural Ecology of Human Values', in Branco A. & Valsiner J. (eds) *Cultural Psychology of Human Values*, pp. 63–83. Charlotte, NC: Information Age Publishers.
- UK Film Council/Narval Media/Birkbeck College/Media Consulting Group (2009) *Stories We Tell Ourselves. The Cultural Impact of UK Film, 1946–2006. A Study for the UK Film Council*. London: UK Film Council.
- UNESCO (2010) *Towards a UNESCO Suite of Indicators on Culture and Development (2009–2010). Literature Review*. Paris: UNESCO.
- Varriale, S. (2016) 'Beyond Distinction: Theorizing Cultural Evaluation as a Social Encounter', *Cultural Sociology*, 10/2: 160–77.
- Walsh, V., Dewdney, A., and Dibosa, D. (2012) *Post-critical Museology: Theory and Practice in the Art Museum*. London and New York: Routledge.
- Williams, R. (1958) *Moving from High Culture to Ordinary Culture* Originally published in N. McKenzie (ed.), *Convictions*.

Appendix 1

1 Guidance for network interviews

The interviews aim to elicit information about the composition (nodes and relationships), breadth (reach and diversity), flows (information, human, and physical resources), and content of networks surrounding research projects, value initiatives, and/or wider units of analysis (such as departments). These networks are the result of connections between researchers and their projects/units with individuals or units that belong to other formal or non-formal organizations (with particular interest in organizations outside the HE system). The type of networks we are looking for are thus [project/individual/programme/output/etc.]-centred. Unlike quantitative network studies, the emphasis here is on the qualitative construction and interpretations of these networks by the participants. In our study, these interviews were used as a complement to more substantive interviews about the participants' interpretations and practices of impact and cultural value.




The critical filter is the extent to which each element of the network is related to how the participant interprets and articulates cultural value processes and outcomes.


Materials necessary include an artist's sketch pad (or an iPad with a good drawing app with colour selector and stylus), a few pencils, and a recorder.

Please give to the participants the opportunity to draw the network themselves. You can then contribute labels, weightings, prompts, etc.

Please record the network-centred interview, as the recording offers useful backup information.

At the end of each interview, a 'map' or diagram will have been produced, collaboratively by the participant and the researcher. The development of the map includes the following elements:

1. Composition and breadth:
 - a. Map the research team, including any user collaborators and other partners.
 - b. Add any funding body/-ies and any institutions contributing in kind.
 - c. Add partners, users, direct beneficiaries, and other relevant bodies.
2. Relationships:
 - a. Direct: Draw relationships between nodes, and as you add them, jot down on the lines a descriptor of the nature of the relationships. 
 - b. Indirect:
 - i. Some nodes may also act as 'bridges' into relationships with other nodes—if that is how the participant describes them and visualize it accordingly (run the relationship arrow through the bridging node).
 - ii. In other cases, the chain linking the research to a node may not be clear to the participant—no direct relationship though. Use a dotted line for these. 
3. Flows:
 - a. Direction:
 - i. One-way (univocal): mark [WorldCat] 

- ii. Two-way (reciprocal): mark[WorldCat] 
- b. Type of flows:
1. Information (I) (the volume and quality of the information exchanged in achieving cultural value).
 2. Human resources (H) (the intensity of exchanges of people, including their skills and work time).
 3. Physical (P) (the volume of material resources exchanged, including financial, but also equipment and infrastructure, relative to the size and stage of the project).
- c. Intensity of flows: Mark in brackets (score for I; score for H; score for P)[WorldCat]
- Mark on scale: 0 (none), 1 (weak), 2 (moderate), and 3 (strong)
 - Mark '-1' for negative flows if the participant describes them as such (i.e. where parts of the network may have negative influence or constrain value generation, or where they may reduce the flows between the project and other nodes)

Possible prompts (tailor as appropriate):

- Research collaborations with partners from outside the higher-education sector (educational, government, publishing or other industry, cultural organizations, charities, community, third sector, media, advocacy, etc.)
 - If applicable, the nature of the collaboration (e.g. jointly held research grants, matched funding for research, contributions in kind, representative on advisory board, secondments, validation of project outputs, and evaluation)
- Sharing outcomes/findings of research with audiences outside academia (who/how) (presentations to interest groups, dedicated workshops, exhibitions, Web, press, consultations and evidence, etc.)
- Sharing methodologies, research tools, or research materials/data with partners or users from outside the HE sector
 - Producing purpose-made resources for users (e.g. training, software, guidelines for practice, educational materials, etc.)
- Using research to inform contributions to non-HE public, private, and third-sector organizations (e.g. advisory roles and committee participation, secondments, expert witness in legal case or in government or parliamentary inquiries, etc.)
- Community use of research
- Other uses: policy, regulatory bodies, curriculum and exam materials, practice guidelines, practitioners, business—including contribution to art, publishing, film and music industries—exhibitions, third-party public events, heritage, advocacy, and campaigning
- Commissioned by cultural organizations to carry out consultancies arising from the project
- Take up of research in relevant organization
- Preventing losses, damage, negative outcome through use of the research
- Critical input to debates
- Generated key concepts or methods that are widely recognized as having changed the way in which practices, problems, and solutions are framed or approached in relevant communities
- Generated unusually high media interest and interest on social media.