

# What is the value of knowledge exchange?

**Abstract:** Knowledge exchange is a collective and collaborative practice that together with research and education has become the third mission of higher education institutions. In the higher education context, knowledge exchange is an umbrella term used as a shorthand for x-disciplinary collaboration between academia and business, public and third sector organisations, that delivers innovation. The landscape of knowledge exchange in higher education is complex and moves along the spectrum of research, knowledge transfer and education resulting in a myriad of knowledge exchange practices, involving very diverse mechanisms, objectives, actors and external collaborators, and therefore generating a wide array of value and impacts.

This paper reports on research in-progress commissioned to better understand the distinctive value of knowledge exchange activities in the arts and humanities, and in particular to explore how might the value that arts and design knowledge exchange activities deliver to external organisations be more effectively identified, captured and communicated. The research follows an inclusive and participatory approach that includes literature review and workshops with academics and officers experienced in knowledge exchange.

Finally, the author argues that currently institutionalised methods to account for the impact of knowledge exchange activities miss out, and shares work in-progress towards a framework to approach the qualitative value of knowledge exchange activities in the context of arts and humanities that takes into consideration (1) what is knowledge exchange, (2) inputs, enablers and barriers, (3) mechanisms, and (4) outputs, outcomes and impacts.

**Theme: Innovation**

**Keywords: knowledge exchange, creative exchange, participatory design, impact, evaluation**

## 1. Situating knowledge exchange

Knowledge exchange is a collective and collaborative practice that together with research and education has become the third mission of higher education institutions. In the context of higher education, knowledge exchange is used as shorthand for collaboration between academic and a non-academic organisations such as business, public and third sector organisations across-disciplines.

There is no single definition of knowledge exchange. The term is often used as an umbrella for concepts such as co-production, transfer, storage, exchange, transformation, translation of knowledge and social learning (Evely et al. 2012). Literature on knowledge exchange is related to the fields of knowledge management, knowledge transfer, technology transfer, knowledge broker, knowledge mobilization, co-production of knowledge, and innovation; each concept implying different meanings for knowledge exchange (Fazey et al. 2014). Fazey et al. broadly define knowledge exchange as 'a process of generating, sharing, and/or using knowledge through various

methods appropriate to the context, purpose, and participants involved' (2013, p.19), that occurs in some form of applied research either through formal or informal mechanisms and processes in which researchers engage with others (Fazey et al. 2014).

The landscape of knowledge exchange in higher education is complex. Knowledge exchange activities unfold within the context of research, knowledge transfer and education. In the United Kingdom, Research Councils United Kingdom (RCUK), Innovate UK and Higher Education Funding Council for England are three of the main bodies that support knowledge exchange activities in higher education institutions.

Innovate UK and the Knowledge Transfer Partnership programme aims to help UK businesses and non-profit organisations to accelerate innovation by through a better use of knowledge, technology and skills that reside within UK academia. The Arts and Humanities Research Council (AHRC) –one of the Research Councils UK (RCUK)– defines knowledge exchange as the 'co-production of new knowledge through the interaction of academics and non-academic individuals and groups, which is of benefit to both parties and is distinct from the one-way dissemination of research findings'. In this line, the AHRC-funded Knowledge Exchange Hubs for the Creative Economy (2012-2016) have explored knowledge exchange with creative industries. The core methodology of the KE Hubs has focused on the co-production and co-design of knowledge, goods and services, establishing and nurturing partnerships. In doing so, the KE Hubs have developed new models of *creative exchange* based on an understanding of collaboration as co-creation, in which the value of collaborative work extends far beyond passive transfer of knowledge from one sector to another (Senior et al. 2016).

In contrast with the narrow approaches of Innovate UK and RCUK/AHRC to what constitutes knowledge transfer and/or exchange, the Higher Education Funding Council for England employs the term knowledge exchange in a broader sense as a 'shorthand for the multiple interactions between HEIs and businesses, public services, charities and communities to create social and economic benefit' (HEFCE, 2017, np). The broad landscape of knowledge exchange mechanisms is typically categorised in four families (PACEC, 2012; Hughes et al. 2016; HEFCE, 2016) (Figure 1):

- Problem-solving activities: Informal advice, joint research, prototyping/testing, joint publications, external secondments, creation of physical facilities, contract research, consortia, consultancy.
- People-based activities: external lectures, external visits, curriculum development, network, standards forums, organising conferences, post-course placements, enterprise education, attending conferences, CPD/courses, advisory boards.
- Community-based activities: public lectures, performing arts, school projects, community sports, exhibitions
- Commercialisation activities: Patenting, licensed research, spin-out company, formed/run consultancy.

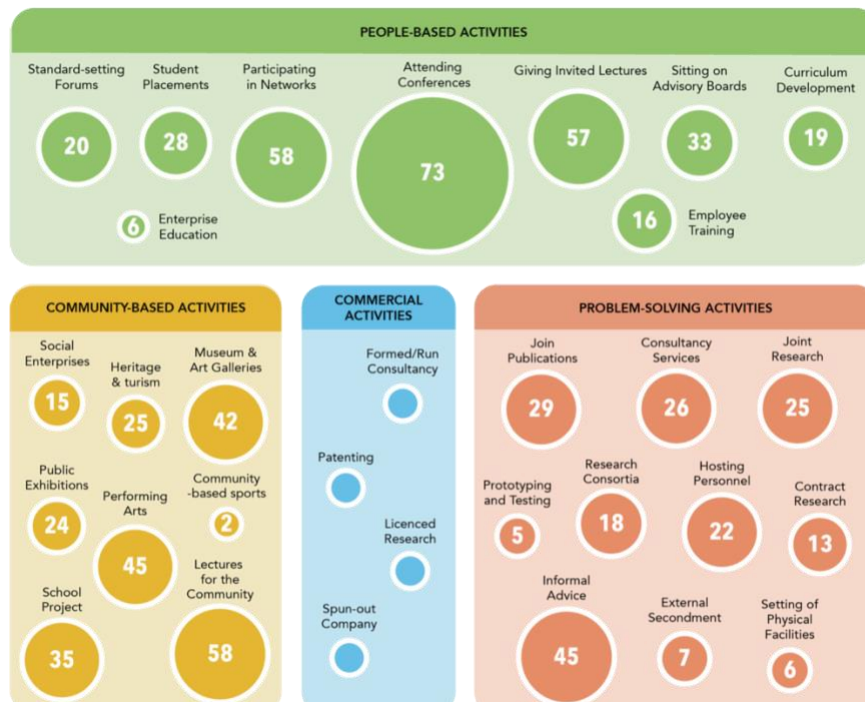


Figure 1. Academic external interaction activity and commercialisation in the last three years (% of respondents) in the arts and humanities. Visualisation based on Hughes et al. 2016.

Therefore, HEFCE account of knowledge exchange mechanisms includes include research, knowledge transfer, and teaching, such as joint research and development projects, spinning out companies and licensing intellectual property, or training and enterprise education respectively, as well as other forms of public engagement such as performing arts and public exhibitions.

## 2. Pathways to impact

As public institutions, these funding bodies have established processes to assess the excellence of publicly funded activities, as well as pathways to impact to inform further allocation of funds and career progression. As it is to be expected, each organisations accounts for excellence in their remit, according to their respective missions and metrics. In research, the Research Excellence Framework (REF) assesses the research impact of British higher education institutions; as does the equivalent Teaching Excellence Framework (TEF) for excellence in teaching and learning. In October 2017, the development of a Knowledge Exchange Excellence Framework (KEF) was announced to benchmark performance from university-business collaboration and knowledge exchange, alongside REF and TEF. Universities are currently being consulted aiming to develop new metrics to rigorously evaluate knowledge exchange activities (Johnson 2017), and it must be noted that to date it is unclear whether and how non-economic impact would be accounted for by KEF.

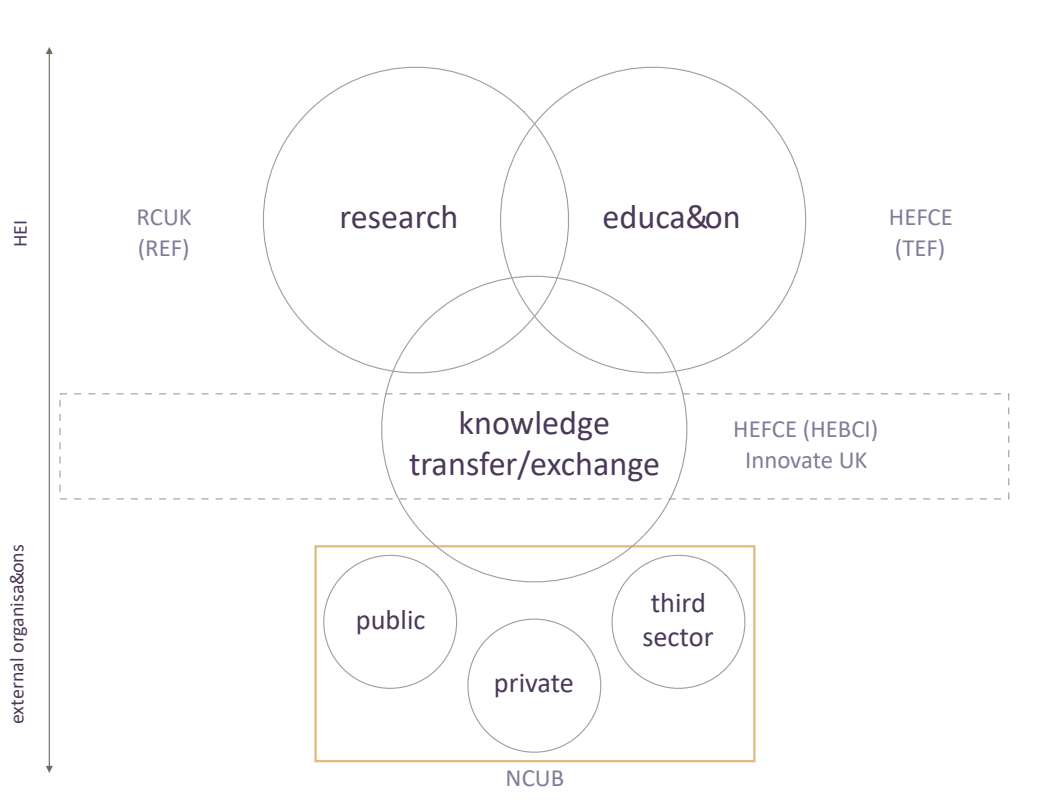


Figure 2. Simplified landscape of organisations (and systems) that support and assess interaction between higher education institutions and external organisations (early 2018)

The Higher Education Funding Council for England (HEFCE) provides funding for knowledge exchange via the Higher Education and Innovation Fund (HEIF). The HEIF funding is allocated on the basis of how well universities are doing in their interactions with businesses and the community. The Higher Education Statistics Agency (HESA) undertakes the collection and analysis of the Higher Education Business and Community Interaction survey (HE-BCI) from higher education providers (HEPs) –all UK publicly funded higher education institutions (HEIs) and a number of alternative providers (APs). The HE-BCI survey ‘captures a range of qualitative and quantitative information on research and innovation activities’ (RCUK 2016, p.8). It consists of two main section sections: Part A consist of a qualitative questionnaire designed to collect information on the infrastructure, capacity and strategy of HEPs. Part B is concerned with gathering numeric and financial data, which is used as a proxy to assess HEP’s engagement with the economy and society. (HESA –n.d.)

As a proxy for impact, HE-BCI captures income metrics from collaborative research, contract research, consultancy, facilities and equipment related services, Continuing Professional Development (CPD) and Continuing Education (CE), regeneration and developing, and intellectual property; and numeric but non-income metrics from disclosures, patent application, licenses, HEI and formal spin-offs, staff and graduates’ start-ups and public events. HESA acknowledges that as a ‘low-burden questionnaire’ it is ‘likely not to capture everything given the complexity of such interactions’. Nevertheless, HE-BCI should reflect ‘the majority of HEP’s third stream income’ (HESA, n.d.).

## 2.1. A gap

HEFCE broadly approaches knowledge exchange as interaction between academics and non-academics aimed at ‘creat[ing] social and economic benefit’ (HEFCE, 2017, np). The current assessment instrument’s use of income metrics as a proxy for impact places overemphasis on economic benefit and largely overlooks the social benefit that knowledge exchange activities may generate. Therefore, it would seem that new success metrics that acknowledge wider public benefit of knowledge exchange activities are required (Dowling 2015).

Knowledge exchange activities are often initiated through informal mechanisms that ‘may not require contractual and transactional services’ (Hughes et al. 2016, p.43) offered by universities’ administrative offices. For instance, Hughes et al. (2016) identified 27 non-commercial modes of interactions (i.e. problem-solving activities, people-based activities and community-based activities) (Figure 1) and highlighted the dominance of non-commercial interactions in all disciplinary fields. However, the role of administrative departments which are tasked with community engagement, partnerships, strategy and innovation is paramount, as these departments are typically responsible for the completion of the HE-BCI survey. It seems safe to assume that collaborative activities that have not passed through universities’ administrative offices are unlikely to be reported to HE-BCI, and that knowledge exchange activities which inputs, outputs or outcomes are not quantified and reported to HE-BCI are not accounted for in terms of knowledge exchange excellence.

In 2015 HEFCE commissioned a study to evaluate the non-monetised achievements of the Higher Education Fund (PACEC, 2015). The study notes significant non-monetised benefits to private, public and third sector organisations from participating in knowledge exchange, such as development of new products and processes, improvement of business performance, benefits to the wider regional and national economy, gain insights and trends opportunities, broaden networks and new contacts, growth of enterprise and strengthened skills for entrepreneurs, improved professional skills and generation of jobs and recruitment of new talent.

Currently (early 2018) there are no mechanisms in place to assess and report on the non-monetised benefits that knowledge exchange activities deliver to private, public and third sector organisations.

## 3. Method

This paper reports on research in-progress (September 2017 – September 2018) commissioned by the University of the Arts London. The University of the Arts London (UAL) is a large arts and humanities university based in London (United Kingdom) composed by six colleges: Camberwell College of Arts, Central Saint Martins, Chelsea College of Arts, London College of Communication, London College of Fashion and Wimbledon College of Arts. The research commissioned by UAL aims to better understand the distinctive value of knowledge exchange activities in the university and across colleges, and in particular to explore how might the value that arts and humanities knowledge exchange activities deliver to external organisations be more effectively identified, captured and communicated.

The research has been motivated by acknowledgement of the diversity of knowledge exchange practices in arts and humanities, and the conviction that current institutionalized methods to account for the value and impacts of knowledge exchange activities miss out. The research focus is to enhance understanding of the value that knowledge exchange activities within the University of the Arts London –and potentially other arts and humanities higher education institutions– deliver to

external organizations, and in doing so contribute towards developing a framework to qualitatively capture the value of knowledge exchange activities in arts and humanities.

It is worth noting that the purpose is not to evaluate, 'as the process and product of making judgements about the value, merit, or worth' (Mathison, 2008, p.183), but to conduct research to better understand the ecosystem, value and impacts that knowledge exchange activities in arts and humanities higher education institutions deliver to external organizations. The research is empirical, exploratory and descriptive and do not aim to reach evaluative conclusions.

The research follows an inclusive and participatory approach divided in five stages:

1. A systematic literature review. Given the time and resource limit of the project the research strategy aimed to be as broad and comprehensive as possible, but not exhaustive. The primary focus of the literature search has been on materials related to knowledge exchange, on published research and grey literature. In addition to academic publications that explore knowledge exchange in the context of arts and humanities, the literature includes reports published by HEFCE, RCUK with emphasis on the AHRC KE Hubs, and the National Centre for Universities and Businesses (NCUB).
2. Six workshops with academics and officers experienced in knowledge exchange (in progress). The workshops, which designed has been informed by the literature review, aim at unearth current practices around knowledge exchange, with a focus on best practices, challenges and opportunities. The workshops have also offered an opportunity to iteratively develop tools that may assist academics and officers to identify and capture the value that knowledge exchange activities deliver to all actors involved, with emphasis on external organisations.
3. Further development of the tools iterated throughout the workshops, and rollout of the tool across colleges.
4. Development of a case study template, informed by the insights on current knowledge exchange practices gained through the workshops. The case study template would be flexible and favour the sharing of qualitative value and impacts. The case study template would be tested and iterated in the production of six case studies selected to be representative of the diversity of knowledge exchange activities across colleges.

Report that acknowledges the university's distinctive approach to knowledge exchange, different pathways by which knowledge exchange activities generate societal and economic impact, and a provision of tools and recommendations to capture and possibly monitor the value of knowledge exchange activities.

The framework for structuring the literature review has been inspired by Fazey et al. (2014). The authors propose overarching principles for evaluating knowledge exchange in the context of interdisciplinary and multi-stakeholder environmental change research, that appeal to be transferable to knowledge exchange in other disciplinary contexts. The authors account for three main factors in designing methodology for knowledge exchange evaluations: Firstly, the selection of evaluation methodologies need to take into account both how knowledge exchange is conceptualized and how is knowledge exchange implemented. These factors are in turned influenced by actors' epistemological and ontological positions. Secondly, evaluative methods must be appropriate for the specific practice, considering, formative and summative, non-participatory and participatory, quantitative and qualitative, deductive and inductive, internal and external etc. Thirdly, the design of methodologies for knowledge exchange evaluations must consider the outcomes evaluated.

## 4. Understanding the value of knowledge exchange

Drawing on the overarching principles for evaluating knowledge exchange proposed by Fazey et al. (2014), the author proposes a framework (in progress) to approach the diversity of knowledge exchange activities in the arts and humanities. The framework (Figure 3) relates 1) inputs and enablers that support the articulation of knowledge exchange mechanisms, 2) mechanisms that support the practice of knowledge exchange activities, and 3) outputs, outcomes and impact generated by the practice of knowledge exchange.

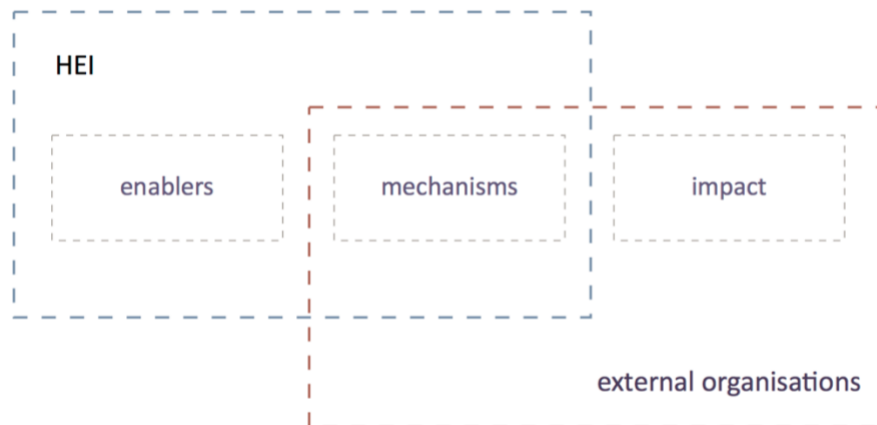


Figure 3. The impact of knowledge exchange activities for external organisations is related to knowledge exchange mechanisms and enablers.

The framework takes into consideration:

1. What is knowledge exchange? How is knowledge exchange conceptualised by the different actors involved?
2. How is knowledge exchanged? What are the *mechanism(s)* that support knowledge exchange? What are the inputs, *enablers* and barriers to that support the mechanism?
3. What are the outputs, outcomes and impacts of knowledge exchange activities? How do outputs, outcomes and impacts of knowledge exchange activities become apparent? What outputs, outcomes and impacts are accounted for?
4. How is the value of knowledge exchange activities captured and communicated? When, by whom and for what audiences?

Firstly, we would consider how knowledge exchange is conceptualised, for example, whether it refers to the 'co-production of new knowledge through the interaction of academics and non-academic', to any interaction between academics and external organisations, or whether knowledge exchange is a means of design participation (Bowen et al 2016). Secondly, we would look into what *mechanisms* support the practice of knowledge exchange, with the assumption that the mechanism would reveal details about the scope and complexity of the project, and potentially would give indications of expected and emergent outcomes. It would also be appropriate to consider what are the *enablers* that support such knowledge exchange activity. Thirdly, we would reflect on what are the outputs and outcomes of knowledge exchange activities, whether expected or emergent, how can be identified, and what outputs and outcomes are accounted for and reported. Finally, how, when, by whom and for what audiences is the value of knowledge exchange activities communicated.

## 4. Conclusion

This paper has reported on research in-progress commissioned to better understand the distinctive value of knowledge exchange activities in the arts and humanities, and in particular to explore how might the value that arts and design knowledge exchange activities deliver to external organisations be more effectively identified, captured and communicated. The author has argued that currently institutionalised methods to account for the impact of knowledge exchange activities miss out, and has shared work in-progress towards a framework to approach the qualitative value of knowledge exchange activities in the context of arts and humanities that takes into consideration (1) what is knowledge exchange, (2) inputs, enablers and barriers, (3) mechanisms, and (4) outputs, outcomes and impacts.

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