Design in Action Knowledge Exchange Process Model

Woods, M.; Marra, M.; Coulson, S.

DOI:
10.20933/10000100

Publication date:
2015

Document Version
Publisher's PDF, also known as Version of record

POSITION PAPER

Design in Action Knowledge Exchange Process Model:

Design-Led Knowledge Exchange for Business Innovation

Woods, M., Marra, M. & Coulson, S. (2015)
University of Dundee

Overview

Design is no longer strictly limited to the designing and appearance of graphics and objects, the understanding of design has expanded to include methodologies for innovation applied in the development of products and services, systems and business models. Similarly, the impact of design has evolved from one of styling to an approach for improving processes and strategic thinking, and as driver of business innovation. Moreover, design is being recognised as strategic tool for public sector innovation (c.f. Design for Public Good[1] and Designing Democracy[2]). Addressing its wide potential, Innovate UK's recent 'Design in Innovation Strategy 2015-2019' promises to '[a]dvocate the use of excellent, early-stage design, and raise awareness of the value of design in innovation'.

Public policy imperatives

The Scottish Government's Economic Strategy (2015) identifies 'innovation' as one of the four pillars of economic policy for the future of the nation. Aspirations to address the chronic productivity challenge are neither new nor confined to a single party. Every iteration of post-devolution economic strategy has taken the same aim. Throughout 2015 'Scotland Can Do' has become the strapline for an 'innovation nation'. If these words are to become reality then translating public investment in Higher Education (HE) research into broader economic benefit is critical. Knowledge Mobilisation was at the heart of Smart Successful Scotland (2004) and has remained at the heart of the productivity conundrum. The focus on spinouts has met with the inescapable reality that academics do not in the main wish to be business people. The focus on IP led to an inflated accounting bubble for intangible assets that would never be put to use. The focus on Knowledge Transfer (KT) has foundered on the sparse absorptive capacity of a limited domestic private sector. Now the focus is Knowledge Exchange (KE). Why? HE and business, indeed Scotland requires more than a more virtuous and less contractual form of KT. The Dowling Review of HE and business collaboration (2015) argues for a cultural shift beyond the short termism of vouchers, the flashy appeal of the blue chip and the need to imbed KE in academic career structures. Scotland must ask whether it is meeting the economic and social challenge. What is clear is that KE in practice is increasing, albeit without real critical debate and empirical research on the subject. Without a full examination and unpacking of the concept and value of KE; theory and it's application for the benefit of academia and industry cannot advance.

Defining Knowledge Exchange

KE is a relatively new term, unlike KT which denotes the process of transmitting information in a single direction. KE describes the interchange of knowledge through a collaborative approach**.** There are several definitions already in existence, for example,

[1] https://www.designcouncil.org.uk/sites/default/files/asset/document/Design%20for%20Public%20Good.pdf

[2] http://www.policyconnect.org.uk/apdig/sites/site_apdig/files/report/497/fieldreportdownload/designingdemocracyinquiry.pdf

the World Bank describes it as 'the just-in-time sharing of information and experiences among development practitioners and leaders'. In academia, it is typically described as 'a co-production of new knowledge through the interactions of academics and non academics, individuals and groups, which is of benefit to both parties and is distinct from the one way dissemination of research findings' (AHRC). Design in Action, however, proposes a framing of KE that is evidenced by impact, and therefore defines KE as 'the co-creation of new knowledge facilitated by design through the interaction of academics, business, individuals and communities, it is achieved when value is manifest' (Design in Action).

DiA Knowledge Exchange Process

The Design in Action Project employs KE as the critical component in its design-led innovation process. The aim of Design in Action is to demonstrate KE as a strategy for economic growth within business, focusing on the value of design-led innovation across business, technology and policy. Design in Action initially delivered across five sectors – food, sport, rural, ICT and wellbeing - identified by the Scottish Government as areas with high growth potential, however the project widened its focus to include legal services, digital imaging, crypto-currencies and the circular economy as a result of externally commissioned partnerships and contracts.

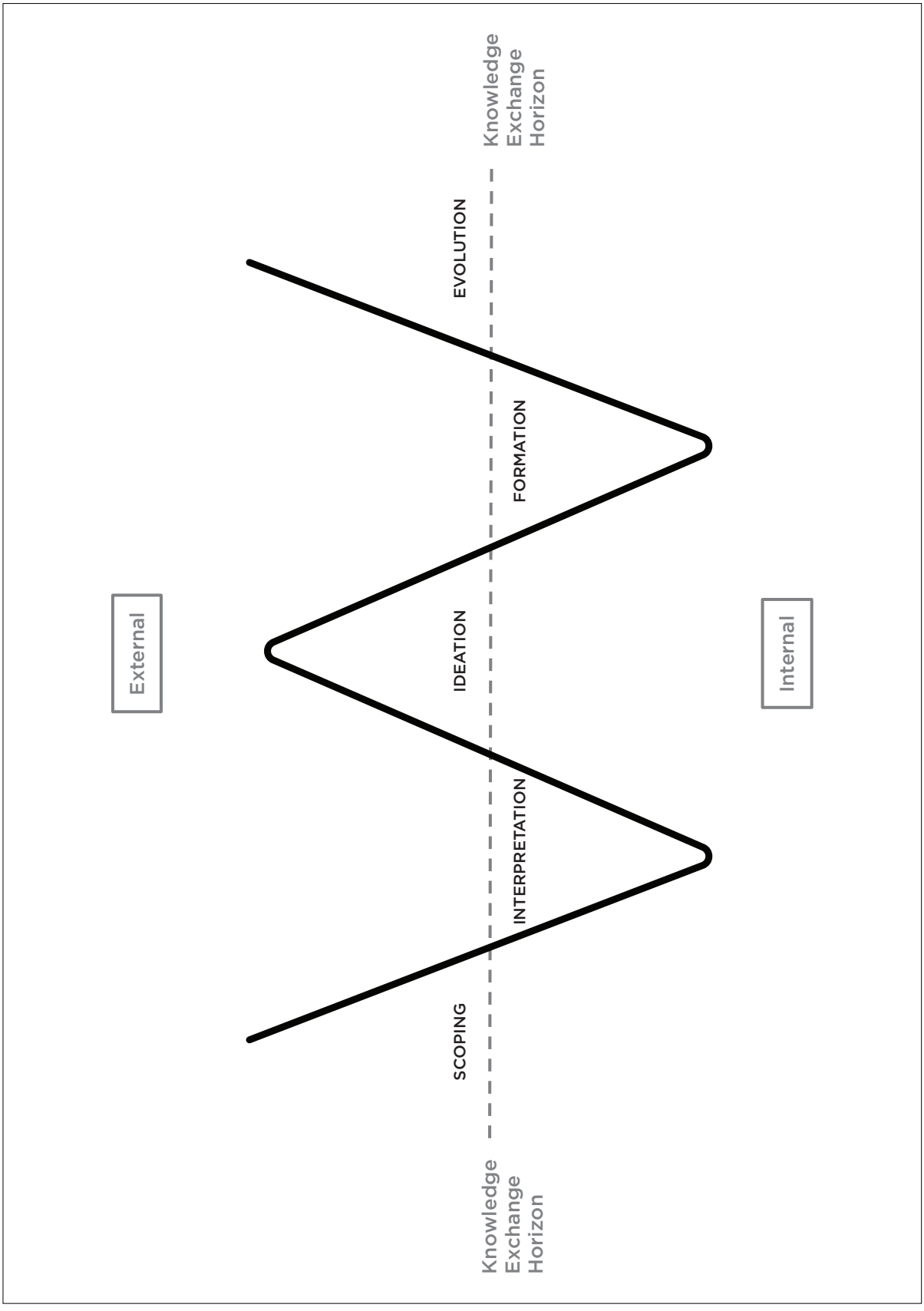
Over the past three and a half years of development and operation, DiA has examined ways in which a KE process can be explained and discussed across industry and academia. In design, models are often used to explain the expanded framework, for example; Design Council's Double Diamond, IDEO Design Thinking Process Model and the Danish Design Centre's Design Ladder. The DiA KE Process Model (Appendix 1) and accompanying text (Appendix 2) begins by unpacking the different forms that KE can take, and uniquely, whether the process involves internal or external engagement and participation. By identifying why and when KE happens, who with, and the typical outcomes, we can begin to better understand its constituent benefits, value and how to support it.

Potential and next steps

The impact of Design in Action is in the process of being quantified, however, since the Hub's June 2012 start it has involved 650 businesses in its seminars, workshops, annual Design summits and fifteen residential Chiasma. In return, these events have created fifteen design-led businesses (of which three have launched), with a collective turnover in excess of £2 million, employing 76 individuals.

However, Design in Action's reach does not always lead to direct or immediate commercial benefit, but instead this form of interchange delivers long-term benefits including economic and societal impact over varying timescales. To successfully capture these existing yet difficult to qualify outputs of KE a new metric must be developed and tested. Furthermore, valuable opportunities for building theoretical and practical knowledge should be made manifest on all sides of the collaborative partnership, building on academic knowledge, sector growth, and policy. A collective voice of MSPs, policy makers, academics and key figures in industry should address these challenges immediately so as to foster innovation and economic growth in Scotland.

Appendix 1. Design in Action Knowledge Exchange Process Model (the Double "V")



Appendix 2. Design in Action Knowledge Exchange Process Model Description

This process model for Knowledge Exchange (KE) illustrates Design in Action's (DiA) role in facilitating and supporting design-led innovation. It does this by demonstrating the full, staged, process of new business development delivered within an academic context. The DiA KE process is not prescriptive but is a concept to discuss and test future iterations of KE across academic and industry contexts.

The model illustrates 5 key stages of KE, brought about by both *external* and *internal* participation. The boundary between these different modes of KE is represented by the KE Horizon line. Above the horizon are the activities mediated through, broadly, processes of external engagement with an open uptake of communities, academics and businesses. Below the horizon are the internal activities which mobilise innovation through self-selected teams, and nominated individuals who contribute additional knowledge and expertise. Here, the Process Model demonstrates that KE crosses back and forth across the horizon, in order to maximise the potential of these varying, but equally important, types of KE.

1. Scoping – Discovery, Concept Development
This stage is a participatory scoping exercise which aims at identifying critical challenges and the key stakeholders that may contribute to near future innovation opportunities in specific sectors. More than a traditional review, Scoping is an active and open process of discovery using methods of co-inquiry to collectively question and position the key challenges. Participants include academics, businesses, communities, NGO's, and Government.

2. Interpretation – Framing, Editorial
Driven by academics and peer reviewed by invited external experts, this is the stage where material gathered during Scoping is synthesised with existing literature. The aim is to highlight and frame three or four key challenge areas for an industry sector and support a 'story' and innovation call. This stage includes and creation of appropriate design methods and tools to support ideation with potential participants and identifies a more extensive network of potential participants to ensure that certain skills and knowledge are brought to the ideation phase. Participants include academics and invited external experts.

3. Ideation – Inspiring, Generating
Ideation begins with an open 'innovation call' for applications, and the selected participants are invited to attend a collaborative event. Here, design thinking and strategy underpin processes that facilitate and support ideation. The event is structured to enable collaboration between the assorted group of participants (e.g. academics and entrepreneurs, as well as expert contributors and designers). This structure of KE encourages ideation, which enables the inception of novel concepts for new businesses. Participants include academics, businesses, designers, and wild cards.

4. Formation – Business Modelling, Prototyping
Taking the ideas from the previous stage, teams move into a phase of research and development to form a business model that meets, or creates, a need and tends to an innovation challenge. Design-led prototyping, feedback, iteration and refinement prepares the product or service, supported through funding and design expertise. Teams work within a primarily internal network, with information coming from selected experts as facilitated by business support staff based within the academic environment. Participants include business teams, academics, designers, external experts and users.

5. Evolution – Commercialisation, Market Feedback
The final stage of the DiA Process Model is when the product or service is launched into the market, this externally facing phase once again allows the business to evolve. The business does so by evaluating targets and gathering insight on general success and from customers to evolve and move forward. The new business does this independently, but still receives support (i.e mentoring and showcasing opportunities) on critical business issues from the KE hub. Participation is wide open.