Articulating Co-Creation for economic and cultural value

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Executive summary

Knowledge Exchange Hubs for the Creative Economy established 2012-2016 by the Arts and Humanities Research Council. The findings have been gathered from the narratives and analysis of the four Knowledge Exchange Hubs for the Creative Economy, Creative Exchange (CE), Creativeworks London (CWL), Design in Action (Dia) and REACT.

The intention is to understand how co-creation has been developed and where and how the different models operated within each hub have added to our collective understanding of Knowledge Exchange. Co-creation was the selected cornerstone upon which the four hubs developed and explored how to build new ways of working with the small and micro businesses that make up 98.5% (Ward and Rhodes 2014 House of Commons) of the economy. This part of the economy has been traditionally hard to reach, and as yet there does not appear to be a model for engagement that delivers for this sector operating within the public agencies. The major success of the hubs has been to build systems and mechanisms that reach the sector in a supportive and constructive manner.

The hubs have successfully engaged in this process, they have built new partnerships, provided value to businesses both start-ups and existing businesses that require new ways of actualising their portfolio and business needs.

Our research approach was based on developing a case study of co-creativity from each of the hubs. The hubs were visited, all the directors and the key staff were interviewed, towards the end of the third, early in the fourth year of operation, forming the basis of each of the case study for each of the hubs co-creation processes (section 4). The interviews were semi-structured and focused on the co-creation process alone. Similarities and differences of methods and context between the hubs were then identified – finding where possible unique attributes to each of the hubs practices and similarity between one, two or three of the hubs (section 4.1.1-4.1.4). A key part of the case study generation was the use of reflection to allow for as Dewey describes, "active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends" (Dewey 1933: 118)."1

Through this process we are able to make the following recommendations on how we harness the strikingly obvious potential of co-creation for economic and cultural value for growth.

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In the Academy

**Learn new fluid and agile approaches to business/research relationships**

The issue that remains outstanding is the building of empathetic systems for the small and micro business community to enhance the hubs working ethos. University knowledge exchange systems are built for teaching and learning processes. Engagement with business has been traditionally through knowledge transfer, a process that is built around moving knowledge from the academy into a commercial environment usually via licencing agreements; knowledge exchange within the research domain is a new concept. The challenge has been for all the hubs, how do you conduct research into knowledge exchange within the creative economy? The models are explained via the case studies, the research undertaken has formed the basis for building new research frameworks, in this case with a sector of the economy that has no R&D provision. The co-creation models articulate a process, three hubs CX, CWL, REACT have adapted existing strategies, DiA sought to build a co-creation framework.

The frameworks have combined knowledge exchange with the creative economy; the research has looked at and explored both the systems/mechanisms for research, how to understand Knowledge Exchange within an external context, and how to augment existing academic systems to bring into the academy new and contemporaneous knowledge from which the whole system can deliver change.

The hubs have explored how to deliver models of change within the creative economy, how the process of change is managed, and the impact that change has had within commercial and cultural organisations. The research forms the basis for understanding the value of arts and humanities knowledge when positioned into economic value chains. The co-creation process has explored and revealed this.

**Find new ways to measure success**

Co-creation enables a value-based approach, economic and social to measuring success that lies outwith the existing frameworks that the academy currently uses, these frameworks have an established value within their own right and value yet to be generated via co-creation, time is required to understand better that value and a longitudinal study five years hence would enable a full understanding of the real value that the hubs have built in partnership with others.

To policy makers

**Build co-creation spaces**

To build physical co-creative spaces within cities, spaces that connect with university activity, policy makers, community groups and businesses (small and large, see individual case studies section 4.2-4.5). This is the model that REACT has adopted through Watershed and one that should be extended. Learning from, for example, the catapults would be useful in further exploring this. A recommendation to the policy makers would be to undertake a review of the existing and potential sites for multi-sector co-creation. These spaces could be highly beneficial in synchronising citywide collaborative activities and be generative of community, social and business values.

The focus on cities currently operating in many policy arenas denies and under values the qualities and requirements of the towns, villages and rural economy, where employment is a critical factor in ensuring that local communities survive and thrive. 81.5% of people live in cities, 18.5% in the rural locations (Office for national statistics, November 2013, 2011 Census Analysis – Comparing Rural and Urban Areas of England and Wales). Local businesses create ecologies around them, they are dependent on local skill sets and knowledge, they do not have the luxury of a large pool of employees, so their businesses are tailored to...

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The hubs have shown that embedding designers and producers into the strategic running of co-creation advances the development of innovative thinking to be achieved.

Diagram represents the Knowledge Exchange process articulated by the hubs

their locality, the local resources and services required by their community. The introduction of broadband has extended their markets but not the gene pool from which they can source their workforce, often the local academy holds the largest skill set within a region, and operates as a centre, the question has to be how can these centres also support and feed the businesses?

**To embed key skills within policy organisations that embrace co-creation**

The hubs have shown that embedding designers and producers into the strategic running of co-creation advances the development of innovative thinking to be achieved. There is an opportunity to capitalise on this, to now find ways to employ designers and producers beyond the scope of project development/management and to embed within government organisations at a strategic level. Should, for example, government departments have a leadership role for designers and producers?
Transferring knowledge between people is by its very definition a collaborative process. We have always exchanged knowledge, as the breadth, depth and quantity of human knowledge expands we need to find new ways to exchange knowledge.

In a more established time when academic disciplines used shared language and processes as a route to efficiency and ease of communication, knowledge exchange was a much simpler thing. It was a time when publishing in specialist journals and meeting at specialist conferences worked. Exchanging knowledge from the academy to industry also worked as ‘industry’, defined as large corporations that had teams dedicated to harvesting knowledge from the academy. All of this was managed through specialised institutes standards that provided ‘charters’, or gates, to ensure the quality of knowledge. Academics worked in their field and charted institutes were the gatekeepers of knowledge in that field – allowing for a highly controlled movement of knowledge between fields and the industries that connected to them. This was then.

The world has changed a lot in recent times. The Internet has enabled people to become the drivers for industry – where instead of having products, services and knowledge pushed at them, they are able to pull what they want into their lives in the way they want it. The large industries are having to compete in new ways that necessitates internal R&D teams operating in a closed system; disciplines have mostly disappeared and the creative economy has built a new informal economy made up of a cloud of SMEs and micro enterprises that have no gatekeeper or charted route to the ‘industry’ that they are located within. The academy is now having to react to this very quickly and find new ways to exchange, validate and build knowledge to meet the needs of this new way of working.

In short, knowledge has moved from the land, where it can be managed in fields with chartered gatekeepers, to the air, where it exists in uncharted clouds and clusters of practice. It is within these ‘clouds’ of activity that the creative economy is at its strongest and where new forms of collaborative academic practice have to operate within. It is where the AHRC has located four knowledge exchange hubs in an experiment to find new ways to exchange knowledge between the academy and the creative economy.

Four ‘hubs’ of knowledge exchange are geographically located – London, North West England, Scotland and South West England and Wales – they are attempting to create new ways of exchanging knowledge in the space where knowledge is created, between business, the community and the academy. Recognising that knowledge comes from everywhere and that the direction of interchange is varied, unpredictable and complex – where the academy has as much, or possibly more, to learn from industry and the community as it has knowledge to share. Different communities generate knowledge differently; the academy needs to access all forms of knowledge in order to operate effectively as researchers and academics.

Given the shift to the ‘air’ where fields and gatekeepers of knowledge are inappropriate, new processes need to be identified, critiqued and shared so that we can find new more appropriate approaches to knowledge exchange and collaborative working. It is not entirely blue sky, as there are a number of identifiable key elements that make up this new cloud based economy. Central to these is the practice of collaborative creation – or co-creation. Where people work together in mutually beneficial ways in order to arrive at a product, service or knowledge base that is relevant across different practices and interests. It is from this known basis that this report is located. We have worked with the four knowledge exchange hubs in order to identify a model for practice that can be reflected on and applied in new contexts across the pull-based creative economy.

Unpicking co-creation, we know that it has many forms – for some this is an act of involving groups of community participants, for others it might be a more individual, or user centreed approach. At times it might be a facilitated process where designed assets are used to enable conversations to occur, or it might be
a produced activity where a professional practitioner aids the production of shared knowledge. We also recognise that the co-creation processes can be very light of touch – where simply putting people together that wouldn’t normally work together can lead to co-created activity.

Through this report we address these alternative approaches, identifying shared practices, exposing differences in language, finding contrasting and complementary practices, and attempt to provide a shared language in a single unifying process. This last point of identifying an initial unifying model is ambitious and is meant more as a way to expose our thinking on how the four very different co-creation models of the Knowledge Exchange Hubs can be brought together. It does not claim to be the right model, more the right way to discuss what the model might be. Something that we hope provides clarity in process and thinking that enables the academy to start to take the next steps in co-creating knowledge sharing in the new economy.

While we recognise that co-creation is a key element in the operation of this new economy we also recognise that there are a number of challenges facing the way in which knowledge is exchanged or shared. We acknowledge that there are financial implications for co-creating products and services that this report does not yet address – perhaps rightly so, as products and services exist beyond economic value. When things are co-created they often draw on other values – values that reflect community interests, environmental concerns or societal needs. What we have learnt is that best practices need to be highlighted and areas for development are required in this nascent area of the new economy of knowledge sharing.

As a final thought, in writing this report, we have exposed that fundamentally the act of co-creation flies in the face of knowledge exchange, where knowledge can be measured, boxed off and kept in managed fields. Perhaps we need to think of the hubs not as hubs of Knowledge Exchange but rather to think of them as hubs of Knowledge Sharing or Interchange Agencies where the assumed processes of ‘knowledge currency and assets’ are stripped away and we are left with a more holistic, people centred, approach to knowledge co-creation that is fit for purpose in the 21st Century.
02 REPORT FINDINGS
The hubs were a major investment by the AHRC, the remit was to explore the interface between the creative economy and academic knowledge to understand how the two could interact and produce a dynamic and free flowing interchange that bought benefits to both communities.

They were empowered to seek matched funding, award grants and facilitate small-scale research projects as part of their organisational strategies, this has effectively built academic entrepreneurs creating a new cadre of academics with a depth of knowledge of business. The biggest unknown was whether the SME and micro business community would respond to these new structures and fully take up the opportunity to engage with academic knowledge as an R&D engine in support of their businesses.

The hubs are different in structure, methods and emphasis, mirroring the diversity of the creative economy and its practices. They were established as an experiment, to test new thinking around the value of larger scale research centres, with the ability to conduct research and ensure that the research impacted productively on the creative economy. Research in real time in real world contexts, looking at, supporting and resolving business issues from a research perspective.

The creative economy is diverse, dynamic, edgy, risky, unconstrained by standard market practices, with a wilful intention to seek out new ways for working, new concepts and practices, trying and embedding failure into success. Tampering with this currency by seeking to systematise knowledge into digestible bite sized pieces that are generic, does not gain the trust or build the energy required to seek to do business better within the framework of the creative economy.

Creativity is at the heart of these businesses practice, issues arise when the vision is singular, articulated from within a silo where perspective is constrained, the hubs have facilitated a framework that provides for speculative knowledge development through multi-lens, effectively de-risking ideas, leading to greater confidence for the investment of scarce time and resources within the small and micro economy.

The response to the offering by the hubs from the SME and micro business sector of creative economy has been staggering, engagement has been at an unprecedented level, exceeding all expectations, outperforming other support structures. This has not precluded large multi-nationals also engaging with the hubs, working in open partnerships where irrespective of scale value is derived from co-creative practices.

This was achieved by using methods developed by the arts and humanities researchers, combined with systems at a scale understood and used as the functional operational model for most of the creative economy. The creative economy relationship with IP is tenuous; overwhelmingly the preferred route is via copyright and first to market. Co-creation requires openness, trust and systems that both support and protect participants, particularly where the process has the potential for generating value, economic and social. IP generated was either the subject of individual negotiation between participants, or in the case of DiA into an established IP shelter within the university, and licenced back at no cost to success grant applicants.

The local economies have provided the operating context for the Hubs, their construction has drawn closely on their locality, which suggests that location is an important factor in understanding how to build a delivery model. The question of whether taking the university out of bringing industry into academia remains a question, certainly the co-creation spaces being pop up – DiA, external – REACT, internal – CWL and CX have collectively tested alternative environments. No systematic evaluation of these has been undertaken to understand what effect environment has on the co-creation process.

2.1 Structure of innovation within the hubs

2.1.1 Inside out or outside in?

A Knowledge Exchange Hub has to balance the different factors required for engagement between the academy, business, and the creative economy, by the building of systems that facilitate honest engagement and interchange, serving the development of mutual
value and purpose between two cultures, thus advancing knowledge. Key considerations are:

- By bringing businesses into the academy does this help to demystify academia?
- Does it open up collaborative opportunities? Or
- Taking the academy out to business allow for more a more neutral and open environment for collaborative exploration?

The hubs were divided 50:50, two cultures have emerged, CX and CWL used an "Inside Out" model. CX model has enabled the building of robust and responsive PhD processes. CX and CWL the model facilitated young researchers enabling them to test their knowledge in support of business. CWL developed a cohesive and coherent method for multi-partnership collaborative research.

"Outside In" DiA and REACT have developed a model based upon the leverage of economic opportunity and value for businesses, driven by academic knowledge exchange for business development, DiA focussed on ideation for commercialisation and REACT on building value from cultural knowledge.

A longer term learning from the hubs relates to how can we potentially create or rather co-create the space that the hubs have started to define. This would take the best practice of using existing citywide assets (as REACT have shown), pop-up residential spaces (as DiA have shown), permanent residential spaces (CWL), and academic learning environments (CX).

2.1.2 Co-creating umbrella structures

The small and micro business sector suffer from knowledge inertia, their resource platform allows for current business engagement but in most cases prohibits developmental and future horizon scanning, this causes market failure as markets are fluid and need constant rebooting, (product, process, service, experience). The Hubs offered to all participants a safe environment within which to experiment and develop new thinking and advance this into ideas with significant market potential.

Each hub developed a particular emphasis, directly related to its academic, business, community, the market, and locality, providing the operational context and framing the knowledge platform.

2.2 Environments for co-creativity

What effect has the physical environment had on the way in which knowledge has been exchanged through co-creativity in the hubs? Where as the Pervasive Media studio had a physical in-town location with dedicated co-working spaces and community, DiA used pop-up spaces dedicated for each Chiasma, Creativeworks London used a researcher in residence to take knowledge into organisations. This aspect requires further investigation as it is only by bringing the four hubs together and talking with their collaborative partners that we can better understand, which method is working for whom, and what works
and why, this piece of work requires to be undertaken, if we are to understand the full potential of the hubs. ³

2.3 The nature of ‘openness’

Open ways of working is very on trend for the government and research councils, which is very useful in terms of learning about open plus Knowledge Exchange. What do we mean by open-access versus open-creation versus open sharing? Open ways of working are becoming increasingly important in research, governance and business. From Open Data (for example data.gov.uk), to open publishing (www.rcuk.ac.uk/research/openaccess), and the open economy. However, what is clear that ‘open’ is very open to interpretation. In much of the work of the Knowledge Exchange Hubs, ‘open’ translated to including people in as broad and approachable way as active generators of content, ideas and ultimately businesses, businesses that owned IP on the ideas that were openly co-created. This notion of open is inclusive, provides a fair entry point for participation and is fundamentally emergent rather than directed. This is not the same as ‘open’ as defined by open-source initiatives being led by, for example, the Open Data Institute or the open-source computer movement. It is about open-access rather than open-source. This points to the need for further work to define these very different natures of openness.

2.4 Funding processes and knowledge creation

How has the way in which the Knowledge Exchange funds been administered and managed directly lead to measurable new knowledge in each of the sectors University and SMEs, the hubs ability to distribute funds as part of their Knowledge Exchange process has had many important deliverables. Jon Dovey REACT comments on scale, making the observation “that small sums at an early stage of development for a micro/ small SME can trigger huge returns”; the sum being proportionate to the SME/Micro scale, grants of up to £20,000 were initially awarded. Using the hubs as a vehicle for distributing funding has meant that the research funding has been delivered to businesses and organisations who would be ineligible for traditional research funding, on the other side the academy has been enabled to build research that is evolving in real time from the business community, something that needs to be undertaken and directly engaged with more.

CX, DiA, and REACT have directly grant-funded Micro/SMEs, to access and understand the processes by which the academy can make a difference within distinct economic frameworks achieved by a number of different strategies. An academic voucher scheme facilitated the diverse partnerships of CWL, to support specific knowledge requests from the business community, the vouchers facilitated close partnership working releasing the academic to deliver knowledge directly into a single business economy. CX and REACT have worked within a business through engagement via producers (REACT) and PhDs (CX), they work with the business to secure and develop specific knowledge. DiA has bought together like minded individuals, built them into teams, facilitated a co-creation process, but remained out with actual direct engagement, DiA has sought to watch the process of design by remaining an observer to the business development process. These distinct processes have all delivered into these communities’ co-creation processes to both understand and instigate change, opportunity and two-way knowledge interchange.

2.5 Who is the editor?

From looking across the case studies it is clear that the way in which the themes for the Knowledge Exchange events are chosen is an editorial process. REACT have chosen to be informed of the themes by referring to their academic partners, whereas DiA have chosen to take an editorial of the themes from the business community. This is clearly an editorial act – one that influences all of the knowledge-exchange content. Obviously there is no right or wrong approach, but did this lead to noticeably different themes? This can be contrasted against the editorial-board approach of CWL– where the large consortium of academic partners and a governing body decide what themes to explore. This raises the bigger question of the role of the ‘editor’ in co-design processes. There is further work needed to determine a clear picture of the way in

¹ Information, Inspiration and Co-creation Elizabeth B.-N. Sanders March 2005
which the different editorial approaches contributed to, or effected, the types of theme chosen.

2.6 What does co-creation success look like?

Measuring ‘knowledge’ is a very difficult thing. We know this from the REF process in academia. Therefore measuring knowledge exchange is a much harder process as to evaluate an exchange we first need to evaluate the knowledge in each of the partners before and after an event; which is perhaps an impossible task? REACT’s metric of a “continuing network of relationships between creative businesses and universities” provides a measurable activity on the strength of the relationship, but does it measure the exchange of knowledge? The issue here is the tension between measurement in figures and measurement in narrative, arts and humanities have traditionally used rich stories to illustrate change, individually neither are optimal, they both serve different purposes, put together they provide depth and rich data unmatched in other forms.

Success for businesses is not always economically driven, within the business case studies (Arts and Humanities Business Models) many emphasised the importance of trust, establishing of a local ecology, and team-building based on common values, these qualities are fundamental to business success and do not equate purely into figures.

2.7 What does failure look like?

If we turn the lens from looking at how we measure the success of the hubs to what failure looks like to the SMEs and community groups the hubs are engaging with we see something unexpected; that failure through the co-creative process can be positive experience. This is evidenced through the CX, where they describe how many of the SMEs that failed to “win” funding with them reported that the one day workshops were a “useful process and make valuable contacts”.

This highlights risk. Further work is required to understand how the differing levels of risk between co-creative partners effects how people work. Can co-creation soften notions of ‘failure’? Co-creation is a two-directional (give/take) process, SMEs experience of co-creation introduces them to new knowledge, new thinking skills, new networks, new ideas, none may result in funding, but the experience and opportunity is seen as valuable in itself, many businesses site that the experience was valuable, and that they have maintained contact with other participants, and shared thinking on other aspects of business practice. (Clearly the risk to funding was unbalanced in the hubs process as the hubs were all the funders of activity. This is not to be critical of the hubs, more to observe the relationship of the partners involved.)

2.8 Designer vs. Producer

It’s interesting to see that while REACT requires a physical output from each funded project, they deliberately distance their process from design. This is evident in the process of idea creation and in the way ideas are finished. This contrasts to DiA who explicitly engage with design as a core strategic process. However there is not always a ‘physical output’, instead there is the creation/extension of a business entity. This places design very much in the context

* www.ref.ac.uk
of forming the platform for innovation rather than
directing or producing the final outcome. DiA posits
that the co-creation process requires many skill sets
to de-risk the outcomes; therefore it is inappropriate
within DiA’s context to build products, it is the role
of the partnership. It would be interesting to see how
these two roles played out in reality and how they
lead to differing outcomes? Specifically this leads to
REACT producing detailed outcomes or products using
c o-design from which a business could be developed.
DiA used design to build environments and tools to
enable new business strategies to emerge very rapidly
and with a wider business audience. REACT’s approach
of the producer, built up strong and close relationships
with people, their ideas and the opportunities for
business and provides a compelling case for exploring
how producers can be used in ideas coming into the
world through tangible outcomes. DiA’s approach
is more attuned to the changing role of design,
as positioned by the Design Council “design-led
innovation can stimulate business growth, transform
public services and enhance places and cities. We
advance new design thinking, encourage debate and
inform government policy. Our vision is to create a
better world by design”.

2.9 Co-creativity as a force
for synchronisation

The CX highlights the importance of agility of
researchers and how working with community groups
and businesses has enabled the academic researchers
to reflect upon and change the frequency in which
they operate. This presents the interesting notion
of how co-creation can act as a synchronising force
within emergent activities with partners all operating
at different timescales/frameworks. As we move into
a research climate where interdisciplinary, multi-
agency activities are to become business-as-usual, we
need to find ways to synchronise activities. It applies
beyond business and academic collaboration and
applies to every sector. Charity groups are delivering to
communities on the ground; communities want to see
clear change in the places they live; large government
entities are notoriously slow in engaging with change;
SMEs need to implement actions very quickly in order
to survive. DiA use a shared repository to synchronise
knowledge exchange between events; which is used
to have “an evolving and responsive methodology
centred on users and results”. This poses the questions
of how co-created assets are documented, stored,
shared and archived. DiA report the importance of
‘fluidity’ in their process, a value that is echoed across
the four hubs. This fluidity is a strong aspiration
but any physicist will tell you, fluid systems are far
more complex than ridged systems, which pose
the challenge of how to maintain agile, fluid and
synchronised systems. Is co-creativity, through
processes of sharing a framework, to enable this in a
highly adaptable and flexible approach?

Below: Images from Collaborative
workshop, ‘Home Improvements’ project
All four hubs independently chose co-creation as the knowledge exchange method, indicating that the hubs recognised how powerful a tool co-creation is. It characterises current best practice in generative innovation, both within the academy and when operating with external partners, particularly the small and micro business communities, which is where the hubs had the most cathartic effect.

Two hubs CWL and the CX used an “outside in” model, bringing business directly into the academic context. The academic frame within CWL provided a comprehensive network of partners managed through a voucher scheme, the principle aim was to “team academics with creative minds, enabling Creativeworks London to deliver on its mission to further showcase London as a centre for creative excellence”.

The CX “brings together pioneering companies and the best academic thinkers to explore the potential of something we are calling digital public space where anyone, anywhere, anytime can access, explore and create with digital content”.

REACT takes the academy out into a business space working with iShed’s Sandbox innovation process to “build collaborations between arts and humanities researchers and creative companies to champion knowledge exchange, cultural experimentation and the development of innovative digital technologies in the creative economy”. REACT posits arts and humanities academic research as a business opportunity, looking to establish new market approaches for knowledge consumption.

DiA has an “inside out” model, taking academic processes externally to understand market opportunities and then positions these to build economic value through “support for SMEs to utilise design as a strategy for innovation, within and out with the creative economy”. The practice is positioned to deliver in a conducive environment for a sector be that a bank, food school or hotel venue. DiA has developed a generic innovation platform, tailored to each specific open call.

The Co-Creation process brings together like-minded individuals, the value of this process being instigated by the academies is that governance and credibility are inherent within the institutions, providing confidence for involvement. It brings to the small and micro business sector a route through perceived barriers to working with academics, through a highly facilitated process.

Inside – is this better for PhD learning? Outside – is that better for lowering barriers to SME collaboration? What are the ‘corridors’ between these two ways of working? How does this challenge existing notions of the academy.

One aspect that the hubs have achieved is operating in responsive mode, seeking to deliver to business responses that meet their needs in a timely and coherent manner. They have all used their networks to join together relevant knowledge and facilitate academic collaboration with business.

All the hubs have had to change academic process to operate effectively with the small and micro SMEs sectors including process both for funding, IP, contracts, and payments. The major challenge has come from the volume of engagement and systems that have traditionally functioned to facilitate singular large-scale contracts, rather than multiple small-scale engagements.

3.1 Findings

3.1.1 In the Academy

The Co-creation process brings together like-minded individuals, the value of this process being instigated by the academies is that governance and credibility are inherent within the institutions, providing confidence for active involvement. It brings to the small and micro business sector a route through perceived barriers to working with academics, through a highly facilitated process. The University context is able to respond positively to a myriad of diverse and complex requirements, given the nature of the diversity of the academic base.
3.1.2 In Business

IP ownership is problematic for the small and micro business; many cite that they do not believe that they hold any IP, so they are unable to identify what their IP is. If these businesses are unable to identify their IP, then they do not have a platform for investment and building their commercial potential. Support needs to be provided to enable the understanding of IP within a business context, and allow the micro and small SME to grow and develop.

3.1.3 IP and co-creation

There is a gap in the infra-structure of IP policy for co-creation processes, all the hubs have had to distance themselves from how each of the business partnerships have assigned their IP, given the vitality of the co-creation process in supporting business growth, better frameworks are required to ensure that progress does not get mired in complicated agreements.

DiA operated an IP shelter to enable a co-creation space that allowed for large and small scale businesses to operate within a safe environment, holding IP within a university shelter also provided significant confidence within the small/micro community that someone had got their back and had the gravitas that would prevent breaches.

Above: Dare to be Digital. Credit: Abertay University
04 CO-CREATION
4.1 Co-Creation the Knowledge Exchange hubs

Creative Exchange, Creativeworks London, Design in Action and REACT, each hub has a co-creation method aimed at stimulating innovation within the SME and Micro business sector (section 4.2-4.5). The approach to co-creation has been built from arts and humanities expertise and the interchange between academic and business communities for economic and social benefit.

To identify optimal engagement and success, an evaluation of the hub’s methods was established to identify core principles and elements for inclusion within the hubs approach including:

### 4.1.1 Core Elements

- New products for SMEs was the driver of the process
- Building relationships between arts and humanities researchers and businesses to establish value/s
- Collaborative partnerships between HEIs, businesses, organisations and agencies operating collectively to identify market challenges
- Co-creation method built to facilitate ideation through knowledge exchange
- Formation of IP for SME’s use from arts and humanities knowledge
- Creative producers/facilitators are key to enable and mobilise knowledge
- Showcase for promotion to position the product in the marketplace
- Small grant funding via peer review a catalyst for development process
- Academic involvement in ideation providing access to arts and humanities methods and approaches
- Co-creation business teams emergent from the process
- Tailored support post co-creation to facilitate, encourage and support prototyping ready for investment/market launch
- Specialist workshops delivered filling knowledge gaps and building more confident businesses

### 4.1.2 Three hubs have the following common elements

- Some projects supported outside of co-creation process to provide comparative understanding
- Maintain contact post project process to understand how growth occurs
- Extended network of businesses built and maintained, a knowledge source for the direction of travel within the economy
- Businesses applying research knowledge derived from co-creation process into their own working environment
- Changes to academic research portfolio, emergent through the knowledge exchange process, academics are discovering new research areas
- Academic career development, for the PhDs and the PDRAs there has been an opportunity to frame their career development within knowledge exchange
- Influencing university generic operating systems, the large amount of SMEs/micro businesses engaged with has necessitated changes of practice and new systems
- Positive social outcome is viewed as a core operating principle
- Delivering academic outputs as a reflective activity

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4.4 Co-Creation Case Studies

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- Scale of investment proportionate to scale of micro/small SME sector, £20,000 funding has a huge impact in combination with the on-going support structures
- Creation of new businesses/business ideas emergent from the co-creation process
- Opening up new markets within the creative economy by positioning the arts and humanities within a cross disciplinary innovation ecosystem
- Academics engaging with speculative projects, working with business delivering innovation has supported the reframing of knowledge as a commercial asset
- Cross disciplinary co-creation providing a multi-disciplinary lens through which ideation can be de-risked
- Facilitated by digital shared online space platforms this mitigates distances, saves time and ensures continuous dialogue

4.1.3 Elements common to two Hubs
- External participation by invitation using existing contacts
- Separate call to academics ensuring engagement by arts and humanities researchers
- External business advice, to reinforce and ensure knowledge is current and professional
- Narrative of impact of research and the contribution to the arts and humanities
- Confidence within the business strengthened, a key element valued by participants
- Business interests drive the calls
- Bespoke tools created to facilitate the ideation phase of co-creation
- Project teams are composed of businesses, arts and humanities researchers and hub team members who operate collaboratively
- Empowered businesses through the provision of contemporaneous knowledge
- Research in real time conducted throughout to understand business/academic interactions and ensure continuous improvement through reflection
- Externally commissioned co-creation to deliver thinking on a specific theme
- Open call for ideation enables interested parties to self select
- Bespoke co-creation model iteratively refined post each co-creation event
- Innovation to catalyse business innovation SME sector has used the processes learnt within their individual contexts
- Participants need to be problem owners a key criteria for successful commercialisation
- Knowledge Exchange process defines sector challenges through engagement with businesses, agencies, sector organisations requirements are better understood by academia
- Ideation tools for using within a business context

4.1.4 Single elements identify different types of sector engagement
- Institutional systems are problematic, scale and numbers of SME has required new processes to be developed, implementation is not always straightforward
- Bespoke knowledge exchange tools developed to facilitate discussion
- PhDs work directly within project teams and businesses, conducting bespoke knowledge generation in support of the business
- Hub determines grant funding through internal evaluation of potential projects
- Data capture of developing projects as information source to advance products and ensure their integrity
- Practice based PhD as an outcome of knowledge exchange between the academy and business
- Businesses submit research questions in response and prior to a call going live, this helps frame the academics and potential future collaborations
- Inclusion in call on a first come first served basis, no hierarchy or review of participants
- Funded creative entrepreneurs as advocates for businesses
- Design operating strategically across subject silos to embed design as a strategic tool for business
- Open call for co-creation to identify potential participants
- Ideation process requires three rounds to develop rich ideas
- Co-creation capitalises upon participants’ knowledge (IP), they bring unique knowledge and thinking to each event
- Co-creation viewing ideas from multi-disciplinary perspectives effectively de-risks ideas
- Research room within ideation process to capture learning as it occurs, ensuring teams are able to maintain forward movement
- Grant funding for design to facilitate continual research engagement through placing a PhD as researcher evaluating design’s impact on development process
- Business outcome end point the aim is to build businesses through the process
- IP shelter established to enable different scales of businesses to co-create
4.2 The Creative Exchange: An Introduction

The Creative Exchange brings together pioneering companies and academic thinkers to explore the potential of digital public space, aiming to co-create new products, experiences and business opportunities, that empower both academic and business communities to access, explore and create with the newly accessible collections of media, public information and personal data trails which form the digital public space.

Hands in co-creation

In addition to the academic co-investigators, a total of 21 funded PhD researchers are working on intensive co-creation and design research. Their work focuses on practical challenges either across the broad scope of Creative Exchange research or deeply embedded within digital public space collaborative projects.

Input, Process, Output

The Creative Exchange is led by Lancaster University, in partnership with Newcastle University and the Royal College of Art, bringing particular expertise in designing experiences, digital prototyping and communication innovation respectively.

CX labs are one-day intensive idea generating workshop events around defined themes such as Public Service Innovation and Democracy; Performance, Liveness and Participation; or Rethinking Working Life. Through these, projects are developed in association with the PhD researchers.

As well as developing these bespoke events the input of the CX team is project specific. They tailor their involvement and contribution to the process, according to where they will be most useful. For some projects they:

- Act in a producer/networker role
- May bring in tangible skills such as coding, design and development

Business interests and developments in the Digital Public Space Landscape drive the initial CX labs. Later project ideation iterations are led by the PhDs, holding Creative Lounge events and co-creating projects directly with companies and academics.

Co-creative Knowledge Exchange

Co-creative knowledge exchange is built into the Creative Exchange process from the beginning. The team uses digital communication platforms to facilitate a participant community network, countering geographic spread. Each project development is bespoke; the co-ordinating researchers are always cautious to ensure the businesses and academic partners have a positive experience. From the academic’s perspective, engaging with speculative and experimental work was a valuable experience.

Participants were accessed through established networks, including through: Future Everything, Maker Labs and other various digital community resources. After making the connections, the Creative Exchange ran a general call for arts and humanities researchers within the HEIs.

Process

Creative Exchange projects are born primarily from CX Labs, one-day workshops around particular themes; each Lab is different. The CX team establishes a theme in response to business-led scoping of the landscape of digital public space, and groups form and generate ideas to develop a proposal for an R&D project they could collaborate on. Those groups are a mix between three parties; UK arts and humanities academics, CX PhDs and businesses.

The labs use a range of bespoke knowledge exchange tools and processes to develop discussion around the themes, develop a range of potential areas of opportunity and allow groups to form around particular ideas for collaborative work. Some participants (businesses and academics) came with initial ideas but novel concepts are encouraged, with all participants on equal footing creating an environment of trust and allowing all participants to be equally invested in outcomes and own the problems and solutions. At the conclusion of the lab initial proposal drafts are submitted, which
participants can then choose to develop further into a formal proposal.

At this stage Creative Exchange will invite the partnership to a development meeting with PhD researchers and/or research associates to discuss how a proposal for a three to six month project could be developed. An important part of this initial meeting is clarifying the goals of each party. To be eligible as a CX project, a proposal must involve carrying out research in an area related to digital public space, include both business and academic partners (a CX PhD researcher and arts and humanities academic from outside the CX institutions) and develop prototype products or services. For each project, the research questions and outcomes were detailed clearly in the scope of the work through the project proposal; it was expected that different groups might focus on different research angles. Multiple industry partners or academics might be involved, and the projects often represented a range of disciplines.

The proposal identifies the resources and a rough sketch of what would be developed. Creative Exchange evaluates proposals on the basis of the:

- Potential for innovation
- New value
- Mutual benefit for all partners

A requirement is not only that the Creative Exchange projects do something for the business collaboration, but that they provide benefit for the academic partners and feed into the hub’s research process as well, Knowledge Exchange.

The Creative Exchange provides legal guidance, encourages an open source model, ensuring that the participants keep control over their IP, while Creative Exchange retains the right to publish. These discussions happen before formal contract signings.

Once the panel approves a project, a collaboration agreement is drawn up. This is a legal agreement
developed with consultants to overcome common process delays in University/Industry partnerships. It sets out and protects the IP and interests of all partners and lays out timelines and financial details. All participants are required to sign the collaboration agreement. Templates for these agreements are provided in advance, participants keep their own IP and at the conclusion come up with an IP agreement as part of the collaboration process.

CX projects will often include new ways of representing complexities and ideas in order to realise them they may require extensive prototyping. The projects also collect data using a variety of methodologies and processes, which will be analysed by the researchers and is a key moment, providing data that will drive future development stages. The Creative Exchange facilitates the testing of ideas and outcomes through industry showcases and field trials, to test concepts and prototypes with the public.

Many of the projects involve co-design, participatory design and community engagement in their methodology, with a focus on positive social outcomes in the creative sector as well as commercial products and services.

Output
A practice-based PhD has been useful to CX in terms of a model for design education.

This outward-facing aspect of working with businesses has resulted in research students accessing professional experience and developing research, in diverse contexts.

For participants, a good output may be a game, or software, product or service concept with the opportunity to commercialise. For CX both papers and reflections are useful analysis tools.

In summary, Creative Exchange projects have different outcomes for different participants, prototypes are a very tangible output of the process for business, research papers contribute to academic knowledge, which often addressed process.

Impact
The Creative Exchange team observed participants taking elements of the co-creative process to their own business practice following the release of some of CX’s tools.

CX responsibility is to ensure that funding is spent well and fits within the remit of the project; simultaneously they aim to address everyone’s goals and concerns by being open and straightforward about finding a good outcome for all vested parties. This element of satisfying both business and research aims is an important impact of the process.

CX researchers have developed to be significantly more agile as academics. They identify working with businesses who don’t have the luxury of deliberating for months as having a major influence on the academics, teaching them about the need to think on their feet and bring those new skills into future research. The PhDs also developed facilitation skills.

The businesses were empowered to recognise when and how their narratives needed to be expanded forward, and how to seek funding beyond the Creative Exchange. CX intends to stay involved and observe what future progress looks like for the projects and businesses.

There has also been a positive impact for participants who were not selected for funding; they were able to observe a useful process and make valuable contacts. Several ended up pursuing other opportunities off the back of CX networking.
4.3 CreativeWorks London: An Introduction

CreativeWorks London has three different funded schemes, whose rationale is to enhance opportunities for collaborative research and Knowledge Exchange.

Schemes:
A. Creative Voucher, co-creation portfolio.
B. Researcher in Residence (where early career researchers and PhD students spend time with an SME in the creative economy). Working collaboratively with SMEs to address research questions that arise from their business needs, the resulting projects are co-created.
C. Creative Entrepreneur in Residence (where creative entrepreneurs are supported and funded to spend time with one of Creative Works London’s research partners. Outside the scope of co-creation).

As CreativeWorks London has 16 universities and five IROs as research partners, and the main delivery partner The Culture Capital Exchange (Co-creation of the programme design), there is significant scope for potential partners and creative entrepreneurs to access the expertise and facilities CreativeWorks London can provide. The focus is on undertaking research in the creative economy on three topics. The three schemes and three areas of research topics map onto each other.

Topics
1. Place, Work, Knowledge: This involves research on innovation clusters and models adopted in creative industry sectors to co-locate people, provide business support and provide enhancement through co-location.
2. London’s Audiences: Looks at the changing nature of London’s audiences.
3. Digital Economy: Hackathons and various forms of creative innovation in the digital sphere.

Residency
Input
The researchers-in-residence begin by engaging with a range of creative SMEs in a workshop. They tell us about the research problems and questions that are key to their future development and success, and CWL then helps to identify doctoral students and early career academic researchers with the right knowledge and skills to address these, agreed through the joint submission of a work plan.

Process-hands in co-creation
Joint sessions are run to identify the research questions and appropriate methods to address these. The strongest projects identified by a panel involving researchers, members of the KE team and CI expert from our Management Board/Governing Council award the researcher up to £5K to work with the SME. The Early Career Researchers and PhD students then spend 3-6 months working with the SME on this problem/question.

Output
These vary from co-developed tech, to reports on business models and audience development opportunities, or historical research to provide content for SMEs.

Creative Voucher
Input
In terms of research assets, the scale of the creative economy in London is significant to CreativeWorks London, as it allows them to work with numerous diverse innovation hubs and draw support from people in their governing council, managing board and from cultural institutions and SMEs. CreativeWorks London has a large database, some of which they inherited from previous networks; they brought established networks to their Knowledge Exchange process and expanded their initial contact base by running events, circulating newsletters and using social media.

For the Creative Voucher scheme, the team, management board and governing council scope out what the significant issues that will be the focus of the various rounds. The topic or theme is connected to one of CWLs research areas. This is also discussed with the 43 partners at a biannual partner forum to flesh out pressing issues for the sector under consideration.

The Knowledge Exchange team, who facilitate the process and run the funding calls, work with the postdoctoral researchers and research-leads in that particular area of research, jointly designing an Ideas Pool. An Ideas Pool is an event at which about eighty
people (half SMEs and half researchers) come together for an afternoon of exchange, discussion and debate framed by the key research questions in that area. These questions are presented by researchers from the relevant research strands in CWL. Before an Ideas Pool, participants submit their business needs – though this may change in subsequent conversations.

After Creativeworks London announces the theme, an open call is announced, and an application workshop is held, applicants gain access on a first come first served basis. Before and during the application process, potential participants are encouraged to talk to the team about the event; here they are made aware of certain eligibility criteria. The involvement of the postdoctoral and research leads means that their understanding of the research potential across the arts and humanities is brought to the process. They help the business think about their business needs and how these might connect to pressing research questions.

**Process**

**Hands in Co-creation**

Participants come to the Ideas Pool with business needs or requirement for academic expertise and form potential partnerships on the day through sign ups, informal networking, round table discussions and post-presentation discussions.

The team’s role is to facilitate, frame the research and tease out which of these presented research questions are of interest, and where there is a sense that Creativeworks London could make a significant impact. There is also a platform for academics to talk about their own expertise; participants can indicate when they would like to contact somebody. Some people arrive at an Ideas Pool already having a sense of the researcher they wanted to work with; some arrive with nothing but the desire to collaborate, throughout the process the KE team brokers in support of joint working practices.

After the Ideas Pool, Creativeworks London runs further workshops to help participants develop joint applications; these focus on what the co-creation of research looks like, models of successful collaboration and defining a research project that could fit in a 3-6 month timescale. The majority of people (approximately two thirds) who attend a Creativeworks London Ideas Pool go on to apply for funding. The Knowledge Exchange team supports the process of developing the bids by networking, facilitating and giving advice on collaboration and co-creation.

After the application process, the collaborative team (comprising an SME and an academic) submits a bid that is evaluated by a panel of academic researchers, members of the Knowledge Exchange team, AHRC representative and external members of Creativeworks London’s governing council and management board. Developing bids is a co-creative process with participants.

**Output**

The bids, if successful, result in the award of Creative Vouchers worth up to £15K and are linked to CWL research areas; this allows postdoctoral researchers to use the outcomes of the projects as part of an evidence base, allowing the process to loop back into research. The Director and one of the PDRAs are currently editing a book focussed on voucher outputs and there are also several working papers that examine the processes and the outputs. Some are scholarly, whose primary audience will be in the field of cultural policy and creative industries; some are aimed at policy, such as a recent white paper on IP; Creativeworks London blog succeeds in accessibly feeding research back to the business community. The intention is to reach different audiences in different ways.

**Outcome**

The scope of Creativeworks London is wide, and it has been important to identify various ways of learning what has happened across the many funded projects. To partially address this, CWL has worked very closely with participants from the point they are brought into the project. Participants are valuable for feeding back into the process; in later iterations Creativeworks London began to use funded creative entrepreneurs as panel participants or as advocates for the process at information sessions part of their role is to explain the benefits of the scheme . Creativeworks London provides a platform for some of their funded projects to showcase, giving them opportunities to present their research or collaboration to potential interested
parties who, could help them develop the idea and take it to the next stage of development. A new outcome of the research is the development of follow on funding, BOOST.

Creativeworks London has not mandated one approach to IP. Speaking generally, they have encouraged open collaboration, Ideas Pools function on the premise that everything there is shared. Once the projects develop, there’s a separate contractual relationship to each of the collaborative projects. Participants negotiate an IP relationship around a specific project. Creativeworks London provides guidelines and principals, and the IP offices in the partner University are also supportive.

Some of the CWL partners have modified their operating practice. For example, Queen Mary’s research office have changed their approach to contracts and to modify payments systems to allow prompt payment to SMEs. Research office staff have been invited to core team meetings to ensure that administrative processes are operating adequately.

Impact
1. Enhanced academic career profile
2. Research practice extended to new audiences
3. Knowledge Exchange built into teaching practices
4. Business benefit from engagement with the academy
5. Impact on local communities, places and young people
6. Businesses applying research knowledge gained from co-creation

Above: ‘Everyday Heroes’, Memorial to Heroic Self-Sacrifice
4.4 Design in Action: An Introduction

Since June 2012, DiA has worked with 650 businesses in its seminars, workshops, summits and in 15 residential Chiasma (DiA’s innovation method). DiA comprises a trans-disciplinary team across five HEIs comprised of Doctoral students, Post Doctoral Research Assistants, Co-Investigators and a core team that implements the operational strategies with the businesses going forward into the marketplace. DiA research occurs in real-time, building relationships between arts and humanities researchers and businesses that DiA develops using design processes.

The aim is to demonstrate design as a strategy for economic growth within business, focusing on the value of design-led innovation across business, technology and policy. Initially delivering across five sectors – food, sport, rural, ICT and wellbeing – identified by the Scottish Government as areas with high potential growth, the project has more recently widened its focus to include legal services, digital imaging, crypto-currencies and the circular economy as a result of externally commissioned partnerships and contracts.

Design in Action used Knowledge Exchange as a starting point. There was very little foreground academic or policy work available to ground the development of the project. In order to overcome this DiA established a working definition of “knowledge made manifest”. Chiasma’s co-creation method is preceded by a six month scoping process, referencing the Design Council’s double diamond as the starting point for effective KE engagement with agencies, organisations, and businesses operating in a field. The output is a public call that translates societal challenges into a market need or range of opportunities. Chiasma are residential design-led events where designers, businesses, academics and wildcards/individuals with a particular interest and knowledge in the topic identified in the public call are mixed together to co-create. Based upon research identifying successful innovation processes DiA built a co-creation model. Each Chiasma tests, refines, and builds iterations of the process as “research in action”, using experience and reflection to maximise value as an innovation model for economic exploitation.

**Input, Process, Output Hands out co-creation**

**Input**

Design methods developed organically and collaboratively, articulating Knowledge Exchange internally and externally, initial desk-based research into design methods, Knowledge Exchange and co-creation all provided insights that informed the Chiasma blueprint. Chiasma was developed to catalyse new methods, approaches and ways of delivering innovation into the business community. Design in Action is experimental and reflective. The postdocs were provided with early stage support to ideate a business driven model for innovation, including training from members of IDEO, KnowInnovation and Innovate UK, to develop skills around user-centred design, human centred design, action design to provide a basis for supporting participants through the design process.

Scoping sectors via workshops, round tables and interviews with market experts in both business and academia facilitates and provides contemporaneous research to the process. The value of this allows a Chiasma call to be purposeful.

Designers are core to the process and each Chiasma team includes a designer. The aim was to provide business with a ‘pull’ opportunity having established a gap in the market and to experience working with design at a strategic level at the very start of the innovation process.

**Process**

The first three Chiasmas used external facilitation, DiA gained key insights including: participants need to have the opportunity to go through three iterations of ideation before the ideas become rich enough to move forward to the conceptualisation stage; individuals coming into the space need to be problem owners, this knowledge formed the front end of the Chiasma process.

Participants are recruited through an open call and selected with a balanced mix of backgrounds and capabilities. Open Ideation rounds include all participants: academics, businesses, designers and wildcard others selected for their disruptive potential. Knowledge Exchange that capitalises on the collective knowledge and experience of participants is a key
ingredient for successful ideation. This provides a 360-degree lens through which ideas can be de-risked. Participant feedback sheets are utilised on new or adapted methods to ensure their suitability. To identify emergent themes knowledge exchange processes define sector challenges. Every call consists of three to five hooks around which participants ideate. DiA tools are quite tactile and carefully designed and considered, evidence indicates that this enables participants to engage and have a better response.

All partner universities lead different events including a handover process and debrief after each Chiasma, with a shared repository for tools and resources. This allows an evolving and responsive methodology centred on users and results. Each lead takes ownership of Chiasma; its agile model is tailored to specific business opportunities building collective knowledge. This agility and open-mindedness allows for fine-tuning, if an aspect is not functioning optimally, or conversely working very well, the session can be adapted accordingly. Participant teams are encouraged to share and synthesise, receiving general feedback from other participants. The DiA team utilises a peer-reviewed method called PPC (plusses, potentials and concerns), which allows feedback to be built into the each iteration of an idea as it develops.

A research room operates behind the scenes capturing the process as it evolves over the two-three day period. The PhDs operate the room receiving updates from the facilitation team throughout. This was established following concern by participants of having researchers watch their process. The research room allows for a map of each ideation stage and facilitates strategic interventions as required to ensure the process remains fluid and highly engaging.

Designers are tasked with helping participants learn to co-create with their end users. Grant funding (panel of external advisors), is used to facilitate continued access to design post Chiasma and gains access for researchers to follow the developmental process. For DiA the co-creation process involves at least one professional designer working with at least one non-designer to
develop a shared outcome. This is what makes the Chiasma space distinctive; diverse people with different skills across multiple sectors coming together to collectively address a shared problem with a clear intent to produce a business outcome as a solution.

DiA has developed an ‘IP shelter’ approach to provide effective governance of intellectual property. Participants entering Chiasma formally agree that presented IP will be shared by all participants. At the end of the Chiasma newly generated IP is captured and held by the university. This provides a method whereby all participants enter the co-creation process as equals. IP is subsequently licenced at no cost to the business. Upon reaching market or at another mutually agreed moment DiA assigns the IP to the company taking a profit share or equity stake within the business to maintain the working relationship at a strategic level and, eventually, to replenish the funding pot. This approach is, to our knowledge, unique. It is a careful balance of incentivising collaboration, providing IP security in a trustful environment for new partners, creating leverage for the centre to brokerage partnerships and as a limited revenue source to meet the cost base of the innovation method. The university developed new systems of administration to support the IP and contracting approach of DiA.

Output

Design in Action’s primary Chiasma output is the creation or development of SMEs.

A research repository for design tools and kits, academic research publications, showcase, business support, and events including high-profile design speakers in the form of public lectures; all comprise a legacy of the Design in Action process.

The impact of Design in Action is in the process of being quantified, since June 2012 start, DiA has involved 650 businesses in its seminars, workshops, annual Design summits and fifteen residential Chiasma, and has created fifteen design-led businesses (of which three have launched), with a collective turnover in excess of £2m and employing 73 individuals.

Outcome

Groups are taking co-creative principals and practices explored in Chiasma and are applying them within their own internal business development processes. DiA have identified the non-designers as the group who have expressed the greatest interest in taking these skills into their businesses. The opportunities provided for collaboration between SMEs, academia and design result in a Knowledge Exchange platform that overcomes issues including cultural and infrastructural silos that may have restricted such co-creation in the past.

By allowing Chiasma participants the opportunity to apply for grant funding (including further business and design support to take the resultant, and sheltered IP to prototype and launch stage), DiA provides a cohesive and complete pipeline process from conception to market and beyond. DiA provides tailored workshops for the emergent businesses in support of their commercialisation process.

Throughout the process a network of designers, academics, policymakers, funding organisations and businesses are created and maintained, which promotes to the businesses community the benefits of adopting design within their infrastructure via networking events, seminars and think pieces.

DiA is now applying our process to externally commissioned innovation contracts. To date Chiasma have been held for Zero Waste Scotland, the Law Society of Scotland and RBS. The model has been tailored in each instance. October 2015 will see a pilot for a possible franchise model for the north east of England. DiA is also further testing the business model and the application of the design process. To do this they are working with ‘Dare to be Digital’ a long standing games development event previously built to showcase skills to potential employers. This model has never previously commercialised a game created from their method. This is outside the chiasma process and is intended to test the robustness of the post process support methods.
4.5 REACT: An Introduction

REACT funds collaborations between arts and humanities researchers and creative companies. These collaborations champion knowledge exchange, cultural experimentation and the development of innovative digital technologies in the creative economy. REACT develops partnerships with creative businesses, to produce innovative prototypes of digital products and services. They broker relationships between arts and humanities researchers and businesses to create research impact through enterprise. REACT is collaboration between the University of the West of England, Watershed, and the Universities of Bath, Bristol, Cardiff and Exeter.

The main methodology REACT draws upon for their process is called Sandbox, which was a pre-existing approach to R & D established at the Pervasive Media Studio in digital creativity centre Watershed, where REACT is based. Sandbox was developed by the studio as a way of responding to their observation that small creative companies very rarely have had time or support to develop their own IP. Sandbox maintains an ethos of community and sharing and a sense of exploring ideas in a co-creative environment with support throughout the process.

Input, Process, Output

Input

A significant input REACT contributes to the co-creation knowledge exchange process is the Creative Producers, who essentially act as ‘traffic managers’ of knowledge exchange, creating a space and ensuring that the right flow of information and resources function within it. REACT adopts the idea of the producer from the cultural industries as key but often invisible function bringing together the idea, talent and resources to create original work. The REACT producers are part of the Watershed team; drawing on a particular set of skills and approaches that Watershed has developed working in innovation over the last ten years. The creative producers lead on brokerage of relationships, and support every collaboration. Being part of the Watershed Community has been a pull factor for both researchers and businesses. Watershed has offered a crucial third space for meeting between diverse partners. The agenda of REACT’s Producers is to help make a project as successful as it can be at every stage. ‘Producers’ bring to the process a thorough knowledge of the cultural landscape, frequently connecting teams to key contractors, or to other forms of funding and markets as well as creative input and critique. REACT ‘Producers’ have a responsibility to protect businesses and academics from the bureaucracy that comes from a university and help the participant’s work be the best that it can be.

REACT also provides funding, a panel of advisors drawn from the relevant industry sector and business development mentorship. The Sandbox also offers PR support, the production of a short film on each project and showcasing opportunities. A key input REACT brought to the Sandbox method was to bring in academics, shifting collaborations to researchers from REACT Universities and small businesses. In terms of the knowledge exchange process, REACT brings inputs of theme identification, curating events, brokerage, relationship management, connectivity, specialist advice, business development and investment.

The formation of a project team is a critical aspect for success, each application is assessed individually for quality, novelty of idea and feasibility; the Sandbox methods thrive on diversity creating strong network for innovation. Each Sandbox lasts three months.

REACT is based at Watershed’s Pervasive Media Studio which is a co-working space that explores creative applications in physical/digital crossovers; the resident studio community has informed everything REACT does. Participants have a range of relationships to the studio; some take up residency regularly in the space, they are able to draw on the programming, design and communications skills that are part of the community. Sandbox participants are also contracted to maintain an online-shared conversation space, facilitated by producers. Tangibly, there is a generic list REACT gives to each participants that specifically details that they will receive: £50,000, a business advisor for three months, producer support, a community of like minded individuals and press coverage in a
national newspaper. REACT aims to be bespoke with their support, providing each business with tailored help and being responsive to needs that develop throughout the process.

Process
REACT runs two Sandbox schemes a year each with six to eight collaborations, themed around emergent issues of interest to the creative economy, where research in the arts and humanities can drive innovation. A panel made up of the REACT team, academics, partner universities and advisory businesses select a theme. The themes chosen are of key importance to REACT’s offer, based upon the awareness of an embryonic network developing or where industries are being challenged by digital technologies (e.g. the publishing industry) and where this disruption offers opportunities for innovation. The themes are set primarily by the needs of the creative economy, in conversation with relevant academic research agendas. The theme is further developed by the REACT Producer, in conversation with relevant industry and academic advisors, and the delivery team.

The first stage for participants is a networking and ideas development event called an Ideas Lab. REACT producers network and recruit potential collaborators, businesses and academics to attend the labs, with support from staff in REACT partner HEIs. To participate in a Sandbox one of the partners must usually have attended an Ideas Lab. The theme is introduced, ideas are worked through and participants form into teams.

REACT’s aim is to facilitate a collaborative and supportive environment in which ideas can be shared and developed with integrity. Respect for participants’ individual IP and confidential information is crucial to the collaborative process. All participants adhere to a set of principles around IP when attending Sandbox Events. These promote an open intellectual environment, which acknowledges the need for different levels of protection. In general, all IP rights are assigned to the creative businesses.

After each Ideas Lab, everyone is invited to apply for grant funding. Producers and University research managers input into this development process supporting the best ideas to a full bid. Collaborators are encouraged to understand that a bid is the start of a development process and the beginning of an impact story. REACT selects the collaborations to fund,
through a traditional selection process of peer reviews run by academics and industry, with an interview for short listed collaborations.

Once funded REACT runs monthly workshops and one to one meetings with each of the teams, in the Pervasive Media Studio, to foster a sense of community. REACT considers having a space external to a business or university department to be extremely valuable. REACT also funds projects outside of the Sandbox process, including pump priming to undertake initial development work as well as prototype funding for teams to produce a working product outside the sandbox process. REACT has developed an alumni funding scheme to take selected projects to market or investment readiness. They contracted with two new partners, Upstarter and Station 12, to provide a programme of bespoke business development and impact case study support for eight projects.

**Output**

REACT requires that projects engage, and produce a working prototype that they can present to publics and investors. The REACT team keeps conversations open with the teams after the Sandbox experience is finished, which they have found raises new research questions. REACT has offered post Sandbox business development awards as well as a limited number of follow on funds. The output of REACT is also measured in a continuing network of relationships between creative businesses and universities.

REACT has discovered that teams are bringing co-creative skillsets they developed during the REACT process into their new research. Notably, participants in Objects Sandbox have written about how they’ve adopted and adapted REACT’s approach to iterative prototyping to great benefit.

Producers try to be editors of each team’s broader story, helping to frame the impact their research has made in terms of a contribution to the arts and humanities. REACT also delivers working papers for knowledge exchange audiences with an interest in policy. It will produce a journal special edition, academic articles in subject specific journals, a final ‘newspaper’ style publication and a final report summarising its findings.

**Impact**

REACT has identified 11 types of impact from its processes:

1. Changes for business partners in their stability, ambition, and confidence where the impact is in proportion to the size of the enterprise. The range of investment available (£15-£50k) can make a huge impact on a creative microbusiness or start-up, but a smaller impact on an established business.

2. The creation of new businesses

3. Generation of new business, for core partners or for collaborators

4. Capacity building for companies or collaborations through the creation of new networks

5. Changes in industry, market or audience sectors

6. Developing new markets for businesses by bringing deep knowledge of human subjects as users of products and services to businesses

7. Impact on users of products and services themselves

8. Changes to academics’ research profile, new presentation invitations, new research publications and the development of new funding bids for research

9. Changes to academics’ teaching practices and the development of new masters’ programmes

10. Academic personal and career development

11. Changes to Universities contracting and procurement processes.