

Institution: Lancaster University		
Unit of Assessment: 32, Art and Design: History, Practice and Theory		
Title: Creative Exchanges: Designing interactions for social, economic and policy impact		
Period when the underpinning research was undertaken: 2010 to 2020		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Leon Cruickshank	Professor	June 2007 to present
Rachel Cooper	Distinguished Professor	July 2006 to present
Naomi Jacobs	Snr Research Associate	September 2012 to December 2016
David Perez	Lecturer	October 2015 to present
Roger Whitham	Lecturer	April 2008 to present
Period when the claimed impact occurred: August 2013 to December 2020		
Is this case study continued from a case study submitted in 2014? N		
<p>1. Summary of the impact</p> <p>Research into developing new approaches to knowledge exchange (KE) has benefited a range of non-academic stakeholders. Impact occurred in two distinct phases. In phase one, companies played an integral role as collaborators in research into new forms of KE. Significant economic impacts were achieved, with one company experiencing an 800% increase in turnover as a direct result of the research. In phase two, insights and outcomes of phase one research were used to develop a bid development programme that enabled partners in the public sector, charities and social enterprises to secure GBP1.9 million in funding for small organisations, and GBP3.9 million for the public sector. The insights and outcomes were also used by partners to deliver over 29 projects (e.g., integrating refugees into society, establishing 'forest schools'), transforming the capacity and capability of third sector partners to provide the social benefits they originally intended. All participating organisations continue to benefit from the impact of creative exchange activity.</p>		
<p>2. Underpinning research</p> <p>The research began when the AHRC awarded Lancaster University GBP4 million to establish the Creative Exchange Hub (CX). Running from 2012 to 2017, CX was led by Cooper and included academic partners at Newcastle University and the Royal College of Art [G1]. CX developed a series of 94 collaborative projects involving academics across different disciplines and institutions, working with SMEs and PhD students. These projects focused on how the public can collaboratively use archived cultural content and were fundamentally concerned with dialogue and exchange [R1].</p> <p>Within CX, there was a work-package that investigated Knowledge Exchange (KE) innovation. This forms the basis of this case study. The work-package was led by Cruickshank (Director of KE for CX) and included academics Cooper, Whitham, and Jacobs. The research explored how design can enable more productive, effective KE and collaboration. The outcomes were a series of new KE methods and approaches, ranging from programme scale (e.g., the design of a new approach to PhD projects, which saw students collaborating on multiple small research projects with SMEs starting in the first month of their PhDs), to event level (e.g., new models for workshops and other collaborative activities) to micro-interactions (e.g., designing a replacement for 'Post-its' in group working).</p> <p>The research was motivated by the imperative to help academics work more effectively and collaboratively with external companies, moving away from old conceptions of 'tech transfer' (with its outdated knowledge 'push' model) to 'KE' (with more dialogue and reciprocal knowledge flow). The research presented here fundamentally extends KE. In the CX approach, it is the very act of exchange that creates new knowledge for participants (academic or otherwise) rather than considering knowledge as a commodity to be 'swapped' between partners. Action research methodology was used with baseline evaluations to establish the effectiveness of interventions, involving companies and academics working closely together on research projects. Outcomes profoundly impacted upon the operation of SME partners. For example, Red Ninja stated that: <i>"We used the design skills we learnt</i></p>		

from CX, which we embedded in the 'Red Ninja Approach – Listen-Think-Do' and co-designed the product with researchers from academia, health professionals, end users and families. This quadruple helix approach allowed us to create a product that could scale" [S1].

Research insights relate to activities, infrastructure, outputs, and application as follows:

[i1] Collaborative team-based approaches were most likely to have real impacts outside academia. These also provide comprehensive, robust training for researchers, equipping them for employment on completion of the project [R2, R3]. The new programme also directly benefited SMEs, both through the outputs of the projects and the strategic networks and connections made with the University [R6].

[i2] Designing platforms for innovation [R3, R6]. The research focusing on 'designing in' innovation activities has informed the fundamental makeup of projects and activities. For example, incorporating principles of openness, the *active* management of relationships enhances sustainability and resilience in organisations [R5, R6].

[i3] Novel forms of Knowledge Exchange [R2, R4, R5]. Exploring how 'exchanges' (or interactions or conversation) can create new knowledge through collaboration was a key insight of the research. For example, the adoption of a prototyping approach accelerates the acquisition of business innovation experience with reduced investment in time and effort.

[i4] Application of Creative Exchange methods can add real tangible value to organisations [R2]. The research can profitably be applied by companies in a range of contexts. For example, treating bid development as a creative act makes it much easier to commit 'core time' to it; it improves capability and capacity and has tangible benefits (e.g., through high funding application success rates).

3. References to the research

[R1] Jacobs, N. J., & Cooper, R. (2018). Living in Digital Worlds: Designing the Digital Public Space. Routledge. *Peer-reviewed*.

[R2] Cruickshank, L., Mather, A., & Evans, M. (2010). Applied Imagination - Designing Innovative Knowledge Transfer Approaches. In R. J. Howlett (Ed.), *Innovation Through Knowledge Transfer* (pp. 219-229). (Smart Innovation, Systems and Technologies, 2010; Vol. 5, No. 4). Springer-Verlag. https://doi.org/10.1007/978-3-642-14594-0_22 *Peer-reviewed*.

[R3] Cruickshank, L. (2015). Understanding high-impact research through mode 1 and mode 2 research approaches. *InImpact: The Journal of Innovation Impact*, 6(2), 165-180. <http://nimbusvault.net/publications/koala/inimpact/317.html> *Peer-reviewed*.

[R4] Cruickshank, L. (2010). The Innovation Dimension: Designing in a Broader Context. *Design Issues*, 26(2), 17-26. https://doi.org/10.1162/DESI_a_00002 *Peer-reviewed*.

[R5] Mortati, M. & Cruickshank, L. (2012). NETS: a design tool for activating social networks. *International Journal of Entrepreneurial Behavior & Research*, 18 (4), 509-523. DOI: <https://doi.org/10.1108/13552551211239528>. *Peer-reviewed*.

[R6] Cruickshank, L., Whitham, R., Rice, G., & Alter, H. (2017). Designing, Adapting and Selecting Tools for Creative Engagement: A Generative Framework. *Swedish Design Research Journal*, 15(1), 42-51. <https://doi.org/10.3384/svid.2000-964X.17142> *Peer-reviewed*.

Peer-reviewed research grant:

[G1] Cooper (PI), Cruickshank (Co-I), Hemment (Co-I), Myerson (Co-I; RCA), Bordy (Co-I; RCA), Oliver (Co-I; Newcastle), Wrights (Co-I; Newcastle), *The Creative Exchange*, AHRC Knowledge Exchange Centre grant: (2012 to 2017) GBP4.04 million.

4. Details of the impact

Impact was delivered in two phases. In phase one, companies collaborated with researchers to develop new KE approaches, leading to economic impact and business innovation. In phase two, the public and voluntary sectors used the outcomes of the research, leading to positive impacts on social welfare, economic activity, public policy, service delivery, and participation.

Phase 1: Enabling economic growth and business innovation for companies through the Creative Exchange (CX) project

During the CX project, the research team collaborated with 107 organisations, across 94 projects. Drawing on research insights [i1, i3], this had immediate effects on the work of collaborators, and long-term effects on the ways in which partner organisations conceptualise and frame the potential of KE. The scope of CX as a platform for impact through KE is demonstrated in the following two examples.

a) Red Ninja: In terms of economic growth and business innovation, some partner organisations were profoundly affected by CX. Liverpool-based high-tech SME Red Ninja is an example of this transformation. In 2012, Red Ninja was a loss-making company with one full-time owner-manager. CX changed the very DNA of the company, as the CEO of Red Ninja states: *"CX is the one project we got involved with that had the most genuine and lasting impact. CX helped us develop a new way of working. It was a very different type of business support with hands-on innovation, working directly with great researchers. Since our collaboration with CX began we have had over 40 projects, created two spin-out businesses, exported projects and moved a team to the USA. Our turnover went up 800% and we hired 8 new people. We are also sponsoring people to do PhDs so we really had a commitment to working with research, producing new ideas and making direct real-world impact. CX changed everything for us"* [i2, S1].

Building on research insights [i1, i2, i3], Red Ninja went on to collaborate with the Transport and Future Cities Catapults, Oxford University, Google, ARM (a world leading chip manufacturer) and Microsoft and continues to train all new staff in the methods and approaches developed as part of CX. Currently Red Ninja are working on the Healthy Ageing Grand Challenge, where one of their products, Safe Steps, has reduced the number of falls by 30% in over 100 health and care institutions; this is directly attributed to working with CX. Safe Steps is now part of the NHS Digital Health Accelerator and Red Ninja are working to scale the product nationally. An independent evaluation by the NHS estimates that the product, if scaled, could save the NHS GBP600 million [S1]. The profound impact CX has had upon Red Ninja is acknowledged by the CEO: *"I think this is the true impact of CX, saving lives, saving money, creating value for industry and creating jobs"* [i2, S1]. This is an example of the multi-level impacts CX has brought about for professional practices, new product development, and impact on wellbeing and health.

b) BBC R&D: Interactions between Lancaster researchers and the BBC's R&D team (North) led to changes in the creative practices of staff, a shift in the organisation's approach to innovation, and organisational policy change. The BBC's R&D team were collaborators on two CX projects, 'Perceptive Media' and 'The Physical Playlist'. The result was a policy shift from larger, monolithic project structures to more nimble, responsive approaches. A Senior R&D 'Firestarter' Producer stated: *"through our collaboration with CX we realised that we had to create smaller, super-agile projects in order to really explore emergent technologies"* [i3, S2]. This collaboration impacted not only on new product development, but also on the methods and policies of BBC R&D, as the following quotations demonstrate: *"In 2017 we restructured to reflect these new ways of working, with the majority of staff now working with the agile, prototype-driven methodologies first proven to be so effective through our work with CX"* [S2]. *"This year we are releasing Perceptive Radio on the Google Play store, an app with its roots in the Perceptive media project funded by CX in 2013, this app will be released publicly as a beta prototype and will remain in Beta forever. This is indicative of the lasting influence of CX on our exploration of IoT technology, but also how our ways of working have fundamentally changed by this collaboration"* [S2]. *"Our collaboration with CX has permanently changed how BBC R&D work"* [i3, S2].

These two examples demonstrate CX's impact on economic value, professional practices, new product development, wellbeing and health, creative practice of staff, organisational innovation approaches and organisational policy change.

Phase 2: Enhancing social welfare, economic activity, public policy, service delivery, and participation in the public and voluntary sectors through the Funding Accelerator (FA) project

Insights gained from CX in phase one (team-based approaches [i1], platforms of innovation [i2] and novel KE methods [i3]) were adopted by the voluntary, public and third sectors in the subsequent Funding Accelerator (FA) project, which was supported by Lancaster University's HEIF and ESRC Impact Acceleration Account (IAA) funds. The FA project helped public and third sector participants overcome a critical loss of capacity and expertise in bid writing, due to cuts in public sector budgets and services since 2010. The project put practitioners together with the research team to identify funding opportunities and to create greater capacity by giving practitioners the skills needed to write funding bids [S3, S5]. The FA project consisted of 19 events, including workshops, retreats and coaching sessions with 104 participants, who often had no bid development experience at all. In terms of economic impact, FA has helped the public sector and third sector participants attract GBP1.93 million of new funding through 29 projects. This financial success across a range of projects, ranging in scale from GBP500 to GBP380,000, is directly attributable to FA support. The group achieved a high success rate of over 60% in its funding applications, suggesting a positive effect on the professional practice and skills of inexperienced bid writers. Funding came from a diverse range of bodies including The Arts Council, Sport England, the Textile Guild and the Heritage Lottery Fund and allowed public and third sector organisations and social enterprises to undertake further activities with significant social and economic impact.

a) Blackburn College: One successful funding application led to the 'Friendship Feast' project, which resulted in both social and economic impacts. Applying newly learned co-design methods through FA, a lecturer at Blackburn College secured GBP7,000 from 'Awards for All' (National Lottery Community Fund) to run a 12-week course to help refugees work towards employability, gain confidence, and cook for their families using UK staple foods. As the project lead described:

"The first week they did a Level 2 Food Hygiene Certificate, which will give them the qualification to actually go and work. The next week a catering tutor did a class with them on how to make delicious meals out of food bank ingredients, because they get bags of food from the food bank and have no idea what they are" [i2, S3]. The lecturer reported a statistical increase in self-efficacy and an associated increase in self-esteem amongst refugees, as a consequence of the participation in the project [S3].

b) The Making Rooms: Further economic and social impacts can be seen where the Director of The Making Rooms (Blackburn) was supported by FA in a successful application for GBP16,400 to the Blackburn with Darwen 'Access to Industry' fund. The award led to the 'Tech Blackburn' project, creating 15 jobs within 6 months, through a programme supporting new technical start-ups. The Making Rooms also applied FA approach in securing an 'Award for All', enabling 36 people with mild to severe physical and learning disabilities to design and make their own assisted living devices or products, thereby improving social inclusion and helping them be more self-reliant and confident [S4].

c) Public Health in Blackburn with Darwen Council: This example demonstrates a significant impact on practitioners and service delivery. The Head of Engagement Research Intelligence stated that as a consequence of working with FA, there has been significant impact on practitioners and service delivery, notably bid writing skills amongst staff in key positions: *"It's created greater capacity and a new set of skills"* [S5]. The research insights [i3, i4] have enabled these staff to secure additional funding: GBP155,000 to undertake a population impact evaluation of health interventions in Blackburn (2019 to 2021) and GBP300,000 for a three-year Childhood Obesity 'trailblazer' project (2019 to 2021) funded by the Local Government Association. Both are directly attributed to FA [S5].

d) Together an Active Future (TaAF) and Sport England: The open, collaborative, creative approach of FA was recognised by the Head of Engagement Research Intelligence Blackburn with Darwen Public Health as something that was lacking in the large Together and Active Future (TaAF) project he was involved with. TaAF is a collaborative programme involving 6 local authorities across Pennine Lancashire, funded by Sport England, and aims to support up to 0.5 million people to become more active. Through an existing relationship, he sought advice from the research team and introduced their insights to the TaAF project [S5].

Adoption of FA insights led to multiple benefits for TaAF: i) upon professional practice; ii) upon partners' and participants' thinking; iii) in gaining additional 'Pathfinder' funding from Sports England. Uptake of the insights led to wider changes in the culture of engagement and participation in significant sections of the public sector in Pennine Lancashire. The TaAF Project Coordinator testified, *"It's just been the fundamental backbone of everything we do, that ethos of dare to be different and being bold"* [S9]. This change in ethos, in becoming creative, has had an impact on both practitioners and their services as stated by the TaAF Programme Manager:

"Our work with Leon and Imagination Lancaster has changed the way we approach engagement and involvement, from concept through to planning to delivery of interactions, it has given us the skills and the confidence to involve people in effective, engaging and fun ways. This has resulted in new types of conversations and insight with people as well as creating an energy which draws them in" [i2, S6].

The adoption of the research insights not only improved the engagement practices of the TaAF team, but also fundamentally changed their thinking about engagement, giving them not only more capacity, but also a radical new perspective. In the words of a TaAF partner, Rossendale Leisure Trust:

"I think as we've seen the approach working and then been able to do it ourselves, it's felt like a door into a new world. Not a risk. It's a world we desperately wanted to be in, but never been able to get through the door.. [and] collaborate properly with other organisations to make an actual difference Since adopting these approaches... there has been a collective change in mind-set and practice. This is a different approach, and probably a better approach than people have ever seen before in terms of that collaboration... The use of creative engagement has become so instilled that there is no prospect of us returning to our old ways", and "These changes have resulted in improved inputs, a shared sense of purpose, significantly enhanced outputs, and a clearer sense of direction, vision, and modes of collaboration going forward" [i2, S7].

Sport England are taking up these insights at the highest level: *"It's an approach that has been recognised certainly from our directorate level as an approach that they see will make an impact going forward"* [S8]. In addition to strategic impacts, insights summarised in [i4] had an impact on funding for TaAF, enabling them to secure Pathfinder funding from Sport England. Pathfinder funding is the next step on from the pilot funding which TaAF initially received, an award of GBP3 million for exploratory funding.

e) Partners in TaAF: The transformation enabled by this research has fundamentally changed the working culture of the partners in TaAF (e.g., Rossendale Leisure Trust). The practitioners are adopting FA ideas they have been introduced to into practice. *"Some simple tools and activities make a massive difference. It's really a mind-set shift that's been the biggest thing"* [S7]. This impact on practice is also evident on a more personal level. As the Programme Manager for the TaAF project explains, *"because of Lancaster I couldn't go back to doing stuff the way I used to do, because it's too inhibiting and because I've seen too much benefit and value of doing things the way that we're doing it"* [i1, i2, S6]. As the Chief Executive at Rossendale Leisure Trust testified: *"We've now been able to find ways to talk to the community and engage with them in a way that they can explain how they really feel about it and what some of these challenges are"* [i1, i2, S7].

These examples evidence FA's transformative effects on social welfare, economic activity, public policy and services, practitioners and service delivery, and participation.

5. Sources to corroborate the impact

[S1] Testimonial from Red Ninja, 2020.

[S2] Testimonial from the BBC, 2020.

[S3] Testimonial from Blackburn College, 2020.

[S4] Interview with The Making Rooms, Blackburn, 2020.

[S5] Testimonial from Blackburn with Darwen Council (and partner in TaAF), 2019

[S6] Testimonial from Programme Manager for TaAF project, Pennine Lancashire, 2019.

[S7] Testimonial from Rossendale Leisure Trust (and partner in TaAF), 2019.

[S8] Interview with Sport England, 2019.

[S9] Interview with Project Coordinator for TaAF, Pennine Lancashire, 2019.