Bournemouth Digital Pier

"A short scoping study to investigate the viability of an in depth analysis of the ecosystem of creative, digital and IT enterprises in Bournemouth with the aim to explore the replicability of the Brighton Fuse project in other locations..."

by

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1 Executive summary

1.1 Project proposal and aims

This short scoping study set out to investigate the viability of an in depth analysis of the ecosystem of creative, digital and IT (CDIT) enterprises in Bournemouth with the aim to explore the replicability of the Brighton Fuse project[1] – a recently completed (October 2013) comprehensive investigation into the origins, development and performance of CDIT businesses in Brighton and Hove.

The aims of this current study are to:

- Explore the CDIT ecosystem in Bournemouth and identify opportunities and barriers to further growth
- Work with a number of CDIT stakeholders and existing networks to identify potential areas of further development or augmentation
- Scope and provide a recommendation on the viability of producing a major study modelled on the Brighton Fuse project
- Identify the scope of such a project within a broader programme of research and its potential for delivering tangible findings and recommendations
- Define a potential research agenda with guidelines for implementation

1.2 Context

The digital economy is everywhere and the pervasive nature of computing has permeated all fields of endeavour with no sign of abating. Nowhere has this phenomenon been more surprising and misunderstood as in the creative business sector.

Only in recent years has the contribution that the creative industries make to the wider digital economy started to be recognised at the highest levels. This is significant as a clear government policy towards the exploitation of the digital economy is paramount to ensure that the UK does not fall behind its international competitors. The policy – and its devolvement to local regions – is still in the making.

Whilst there have always been pockets of significant success in the performing and creative arts sector, the advent of the digital creative

[1] www.brightonfuse.com

industries has heralded a broader wave of multi-skilled entrepreneurs who are exploiting the potential of the digital economy in a variety of innovative ways. Following the lead of the pioneering Brighton Fuse project, we refer to these practitioners as belonging to the creative, digital and information technology industries, or 'CDIT' for short.

1.3 The nature of CDIT eco-systems

Successful CDIT businesses fuse together people talent from a range of disciplines – the arts, humanities, engineering, mathematics and computing – to deliver digitally-formatted products and services to a lucrative market-place. As talent pools are brought together there is a cross-fertilisation of ideas and learning leading to a dynamic, innovative and creative sector. Computer games, cinematic special effects and mobile telephone applications are examples of this sector's output.

The CDIT grouping of these businesses highlights the interdependent nature of the constituent elements of IT, creativity and design as well as the huge transformation that has occurred in terms of how we categorise industries in the 'Internet Age'. CDIT organisations are everywhere, as enterprises in their own rights or serving the creative digital needs of other companies. Even larger more corporate organisations recognise the need to fuse talent disciplines in this way in order to produce R & D excellence, marketing capability and customer delight.

This interdisciplinary nature of work and research in the Internet Age is reflected in the make-up of such organisations with their emphasis on collaboration and teamwork. All of these organisations, both large and small, require new economic ecosystems in which to evolve and develop. With few exceptions, CDIT organisations thrive in clusters of complementary- and even competitor - enterprises. Through our research, the locations of these organisations have highlighted the importance that business owners place on the work environment and hence how CDIT hubs form and grow.

1.4 Why does CDIT matter?

CDIT has assumed a highly significant space in the new internet-based economy as it taps into the products, services and lifestyles that many of us are attracted to via the 'screen scene'. This sector's growth is driven by fun and curiosity, creating entertainment, leisure, social networks and a wealth of communication and engagement tools.

Further it represents a significant and growing part of the UK economy in terms of wealth creation and jobs for educated and talented people. An argument has been successfully made by the #IncludeDesign campaign that this sector matters at the education level too, as too narrow a national curriculum would potentially exclude those with dominant creative skills from being able to contribute to the digital economy[2]. At both local and national levels there is still much uncertainty about the numbers involved in CDIT. This is partly due to the ambiguity of the terminology and partly the nature of job descriptions. However, as a leading contributor to the re-emergence of the strength of the UK economy, it is time to increase our understanding of CDIT and swiftly learn how we can support its further growth.

1.5 Bournemouth conurbation CDIT hub development

This report illustrates how Bournemouth and its urban neighbourhood meets a number of factors that our research identifies as critical for CDIT hub development. An existing cluster is apparent and there is an opportunity for immediate and longer-term development of Bournemouth as a leading-edge CDIT hub location. The town is on the cusp of evolving into a new, modern, environmentally-rich habitation that is appealing to visitors and inhabitants alike.

Importantly, there is a growing pool of CDIT talent being formed from local higher education graduate output, external graduate talent locating in the region, and incoming CDIT professionals who see the attractions of the area for re-location. An encouraging track record of new start-ups and other initiatives such as support networks, festivals and exhibitions can be observed as a platform for CDIT hub expansion.

The huge potential for this area locally has already been recognised by the creation of a Digital Manifesto[3], signed off by a number of local authorities, educational establishments and private-sector representatives. Whilst other towns and cities in the UK have their own initiatives and local characteristics, few can match the convergence of creative talent, business

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2 http://www.digitalartsonline.co.uk/news/creative-business/design-industry-backs-new-design-technology-national-curriculum/ - article on the successful introduction of design into the National Curriculum.

3 Dorset Local Enterprise Partnership (2013) *A Manifesto For Our Creative and Digital Economy* Report

acumen, political will and environmental beauty that could see Bournemouth assert its place and identity as a key hub for CDIT enterprise in the future.

1.6 Report recommendations

Based on our research the following seven recommendations are proposed:

1. A comprehensive real-time programme of research that will offer a deeper understanding of the CDIT sector across Bournemouth and the Bournemouth conurbation, and an increased awareness of the issues involved in supporting and analysing CDIT practitioners and their clusters. This would encompass analysis of the technical, creative, economic and business aspects of the initiative.

2. An evaluation of strategic model options and their operational implementation that could lead and sustain the development of Bournemouth as an internationally recognised CDIT hub.

3. The development of a wider regional CDIT support network (CDIT-South) that would harness the existing local networks; build upon the legacy of existing wider regional networks such as e-Research South which links Bournemouth, Southampton, Reading, Bath, Oxford and other universities, and also draw upon other networks such as IT as a Utility Network+ and similar communities of interest. The Centre for Digital Entertainment (CDE) that links Bournemouth and Bath Universities would also benefit from this network. Links with CDIT activity in Bristol have also been identified.

4. Establishing a programme of workshops, events and activities that would engage all Bournemouth CDIT hub stakeholders in the development of a local creative, digital economy.

5. A series of pilot projects to develop prototype and proof of concept solutions to connect university research teams, companies and other bodies on the micro, mezzo and macro levels.

6. Funding of short-term secondments for experts and specialists to transfer between enterprises, public-sector organisations, universities and local government to foster understanding and share skill sets.

7. Promotion and dissemination of the benefits of the local CDIT hub, how hub development can be achieved, and the resources needed for it to thrive.

2 Introduction

The digital creative economy, and indeed the wider digital economy, has been recognised as the hidden powerhouse behind the recent green shoots of recovery observed in the UK economy as a whole. Bournemouth (population 186,700[4]), and also Poole (population 147,600[5]), have both been identified as towns with significant clusters of activity within the emergent UK digital economy[6]. The phenomenon of 'clustering' has increasingly been recognised as crucial to the success of this sector with benefits of shared inputs, pooled labour and knowledge spill over (See, for example, http://www.nesta.org.uk/publications/creative-clusters-and-innovation-report).

The conurbation of Bournemouth and Poole as well as the surrounding area has over 300 creative agencies[7] and two universities - each with an international reputation for delivering professionals to the digital creative sector. The area thus has great potential to develop as a major CDIT hub and offers an opportunity to analyse, capture and support this nascent local industry and share lessons with the wider digital creative sector both nationally and beyond.

This restricted scoping study set out to investigate the viability of an in-depth analysis of the ecosystem of creative, digital and IT (CDIT) enterprises in Bournemouth with the aim to explore the replicability of the Brighton Fuse project in other locations. Towards this end, the aims of this current study are to:

- Explore the CDIT ecosystem in Bournemouth and identify opportunities and barriers to further growth
- Work with a number of CDIT stakeholders and existing networks to identify potential areas of further development or augmentation
- Scope and provide a recommendation on the viability of producing a major study modelled on the Brighton Fuse project

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4 http://www.bournemouth.gov.uk/PeopleLiving/BournemouthStatistics/Themes/PopulationMigration/Population/Population-Trends-in-Bournemouth-2013.pdf

5 http://www.boroughofpoole.com/your-council/how-the-council-works/research/pooles-population/

6 http://www.ft.com/m/html/expandable-picture.htm

7 http://www.meetdraw.com/wp-content/uploads/2013/05/DorsetCreativeCensus2013digital7thMayedit.pdf

- Identify the scope of such a project within a broader programme of research and its potential for delivering tangible findings and recommendations
- Define a potential research agenda with guidelines for implementation

The Brighton Fuse creative, digital and IT study culminated in a very impressive final report launch to the Cabinet Office, Home Office and many other interested parties. A second, equally impressive launch took place in Brighton. Report audiences therefore reflect the very high level of attention now being given to research efforts in the CDIT sector.

The Brighton Fuse project was a catalyst for this study and despite the clear differences in these two South Coast seaside towns, there are many comparisons to be made and synergies to be explored. Both places have two universities and therefore a complex and dynamic demographic population that includes many other transient communities such as language students and seasonal workers.

The population of the City of Brighton and Hove is 273,400[8]. Brighton and Hove's population has a mean age of 37 years (median age is 35) whereas Bournemouth's has a slightly higher mean age of 40 (median age is 38)[9] - down one year on the 2001 census.

Other digital creative clusters around the country have demonstrated similarities and differences in the emergent models of collaborative networking. These include what we may term as the 'traditional' model, (Soho), the 'newly emergent' model (Tech City), and the 'corporate-led' model (MediaCity UK, Salford Quays). One thing is clear: all of these models and instances will play a significant role in rebuilding the UK economy.

2.1 Context and background for research

The Dorset towns of Bournemouth, Poole and Christchurch have seen considerable change in recent years due to a number of factors with significant shifts in demographic, economic and business profiles in the

[8] http://www.ons.gov.uk/ons/rel/mro/news-release/census-2011-result-shows-increase-in-population-of-the-south-east/censussoutheastnr0712.html
[9] http://www.ons.gov.uk/ons/rel/census/2011-census/key-statistics-for-local-authorities-in-england-and-wales/rft-table-ks102ew.xls

conurbation. Service-based enterprises dominate the private sector and three further and higher educational institutions have provided the area with an outstanding pool of talent that underpins the development and success of local commercial organisations.

As well as living locally, the report writers have business interests and operations in the area, working with various academic, public-sector and commercial organisations. Through their knowledge of conurbation developments, interactions with local suppliers, and doing business with Dorset-based customers, the authors became aware of the impressive growth of business organisations that fell into the category of 'creative digital enterprises'. In particular, there has been expansion of organisations such as advertising and marketing agencies, film and media companies, and IT/ICT services.

One of the influences leading to the development of creative and digital enterprise has been the growing output of graduate and postgraduate talent coming from two main universities – Bournemouth University and the Arts University of Bournemouth. Creative and technical graduates have increasingly been encouraged to remain in the area and many small enterprises and individuals are beginning to thrive.

Whilst this sector growth has been impressive, other towns and cities have demonstrated the potential for creative digital 'hubs' as a major opportunity for business and economic development. Through their professional activities the authors were aware of hubs and 'clusters' being developed in, for example, London, Brighton, Birmingham, Cambridge, Manchester, Bristol, Glasgow and other cities overseas.

Thus, an opportunity to ascertain the potential viability of a creative and digital hub for the Bournemouth conurbation became apparent to the authors and a proposal for a grant-funded feasibility study was submitted to the Economic and Social Research Council. This was approved and this report is the culmination of research undertaken within the sponsor's terms of reference.

2.2 Research scope

The proposition is that an opportunity exists for Bournemouth and the surrounding area to develop a competitive creative, digital and information technology hub that can significantly contribute to the economic development of Dorset business enterprise. This study tests that proposition

and aims to identify what further research is needed to better understand current and future hub development.

The investigation is necessarily bounded by various parameters including the need to concentrate on further research potential, and constraints of time, resources and budget. Thus, seven key research objectives were identified:

- Establishing a succinct understanding of competing hub formats
- Setting out the advantages that a hub may bring to Bournemouth and Dorset
- Identifying distinctive resource capabilities and unique competency characteristics that could provide potential strategic advantage to a Bournemouth hub
- Mapping the key components of a Bournemouth hub model and demonstrating how these fit together as an integrated structure
- Researching the potential stakeholders for a hub initiative, the strength of support that it may attract, and the barriers that need to be overcome
- Drawing conclusions regarding further research opportunities.

Out of scope is a full academic review of current thinking and practice on technology hub and enterprise development - although the researchers' methodology will draw on relevant experiences, citations and references.

3 Methodological approach and research activities

3.1 Methodology

The Research Philosophy adopted is one of pragmatism. This is an impartial investigation that seeks to enquire into a proposition and report back with conclusions and recommendations. There is a high exploratory orientation to the study.

It follows that the overall Research Approach is inductive as the investigators attempt to build a position against the proposition rather than test out a hypothesis or theory.

Methods for obtaining data will be mixed to obtain qualitative input, secondary quantitative information and case material.

That said, a methodological framework was established as a foundation for subsequent research. A more detailed explanation of this research approach can be found at Appendix C.

3.2 Activities

Various activities were undertaken to gain a representative overview of current activity in the area and also to gain an appreciation of future planning and intentions. A preliminary literature review was also completed in order to gain insight into current thinking about the phenomenon of urban clustering of digital creative enterprises and individuals as well as the synergies emerging from interdisciplinary collaboration between creative, digital and IT specialists.

The fieldwork activities included a networking process of talking to relevant people to identify other key people with whom we should consult. This was followed by a series of structured interviews with representatives from different organisations, sectors and institutions. This process proved very rewarding with many subjects being eager to introduce others to the researchers.

In addition to local fieldwork in and around Bournemouth, the authors visited other cluster centres namely, TechCity in Shoreditch, London; the Greenwich Digital Peninsular, London; Wired Sussex and "Super-Fused" Brighton, and MediaCity UK at Salford Quays, Greater Manchester. Here, a range of observations, interviews and discussions were made with various people including large corporates, micro-businesses, academics, and practitioners.

Discussions were also held with academics and practitioners at Henley Business School, University of Reading, University of Southampton, University of Oxford, Bournemouth University, Arts University of Bournemouth, Brighton University and the University of Sussex.

A literature search was undertaken using the new University of Southampton Delphis tool. The search focused on recent material on creative clusters and the role of 'place' in this context. Other relevant publications were gathered from a range of industry sources, the Internet, trade and professional journals.

The following institutions and individuals in Table 1 were identified as being key players in the CDIT local economy. Most were contacted at least by telephone to sound out their initial thoughts on the emerging CDIT cluster

and the benefits of a research project investigating its emergence and development.

Table 1: Key Interviews and Contacts

Name	Organisation	Sector	Role	Action
Samantha Leahy-Harland	Bournemouth University	Education	Director of Operations: international and regional engagement	Interviewed by SB, DR on 4 Oct, 2013
David Ford	Bright Blue Day	Enterprise	Chief Executive, Bright Blue Day	Interviewed by SB, DR on 15 Nov, 2013
Chris Kelu	Bournemouth Borough Council	Local Government	Economic Development	DR has spoken to Chris by phone
Simon Pride	Arts University Bournemouth	Education	Head of Marketing and Communications	Interviewed by SB, DR on 11 Oct, 2013
David Williams	Arts University Bournemouth	Education	Assistant Director	SB spoke on phone
Peter Truckel	Bournemouth University	Education	Project Director, International VFX Hub Bournemouth	Interviewed by SB & DR on 25 Oct, 2013
Kerry Rowland-Hill	Bournemouth University	Education	Project Coordinator, International VFX Hub Bournemouth	Interviewed by SB & DR on 25 Oct, 2013
Liam Toms	Bournemouth University	Education	Manager, Creative Enterprise Bureau (CEB), Bournemouth University	SB spoke on phone, and met in person
Bogdan Gabrys	Bournemouth University	Education	Smart Technology Research Centre, School of Design, Engineering and Computing, Chair in Computational Intelligence	SB met Bogdan whom we know from existing collaborations.
Gregg Dunnett	Bournemouth Town Centre Business Improvement District (BID)	Local planning	BID Coordinator	SB spoke on phone
Alun Williams	Bournemouth Coastal Business Improvement District (BID)	Local planning	BID Coordinator	SB spoke on phone

David Walsh	Dorset Local Enterprise Partnership (LEP)	Commercial	Economic Development Manager for Dorset	A number of attempts made to initiate discussions but unable to contact so far
Kerry Curtis	Arts Bournemouth	Arts administration	Communications Manager, Arts Bournemouth	Unable to contact so far
Matthew Desmier	Silicon Beach/Wise Old Uncle	Commercial	Creative, Digital Consultant, Silicon Beach organiser	Interviewed by SB & DR Friday 4 Oct, 2013
Ashley Faull	2 Kings Ltd	Venture capitalist		£2M asset-based lending for start ups, contact not made
Matt Hawkins (Chairman) & Simon Mewett (CEO)	C4L	Commercial	Manifesto signatories	Committed to offering cloud services, http://www.c4l.co.uk, Bournemouth – based. Contact not made.
Sofronis Efstathiou	BFX festival	Arts administration	Events org	Bournemouth Effects Festival, http://www.bfxfestival.com, 25-29 Sept. Contact not made.
Chris McLaughlin	Double Negative	Digital FX	Technical Director	Chris McLaughlin @chrsmclghln TD at Double Negative, London based but at BFX. Contact not made.
Michael Rowland	Bournemouth Borough Council	Local Council	Parks Manager - Development	Interviewed by SB & DR Friday 15 Nov, 2013
Richard Spencer	A Thousand Monkeys	Commercial	Copywriter	Interviewed by SB & DR Friday 4 Oct, 2013

4 Outcomes and evidence

The following section presents a summary of the salient information discovered during the research. These elements would form the basis for further investigation as outlined in the recommendations.

4.1 Evidence of existing key local formal and informal networks relating to CDIT sector

Table Two identifies relevant social networks as a result of the fieldwork investigations and other searches.

Table 2: Relevant CDIT Networks

Network	Domain	Description
Meetdraw (http://meetdraw.com, @meetdraw – 2156 Twitter followers)	Digital creative	A meeting of local (Dorset) digital practitioners to talk about and share creative passions, to support the local creative economy. An independent, neutral and open platform for communication and development.
HACKBMTH (http://hackbmth.org, @hackbmth – 295 Twitter followers)	Digital creative	A regular gathering of creative individuals in tech. Organised by @jonginn @skattyadz.
Dorset Digital (http://www.dorsetdigital.co.uk, @dorsetdigital – 456 Twitter followers)	Web and software professionals	An informal community of web and software developers who meet monthly in pubs near train-lines in Dorset. A peer-to-peer support network also aiming to put Dorset on the map.
Open Device Lab, Bournemouth (http://odl.wearebase.com, @odlbmth – 286 Twitter followers)	Software testing and development	A community of software developers pooling their systems for distributed testing to support rapid prototyping. Currently offering 252 devices.
PHPDorset (http://phpdorset.co.uk, @phpdorset – 49 Twitter followers)	PHP software development	Dorset's newly formed PHP user group. Established in November 2013.
Silicon Beach BA (http://www.siliconbeach.pro, @SiliconBeachBA – 239 Twitter followers)	Business Angels	The SBBA operates in and around Dorset, bringing entrepreneurs, investors and business catalysts together to accelerate the growth of start-up businesses. *"Our vision is to create a Business Angel network for the Bournemouth, Poole, Christchurch and Dorset area for investors which will provide growth capital to fund innovative start-up and first stage businesses."*

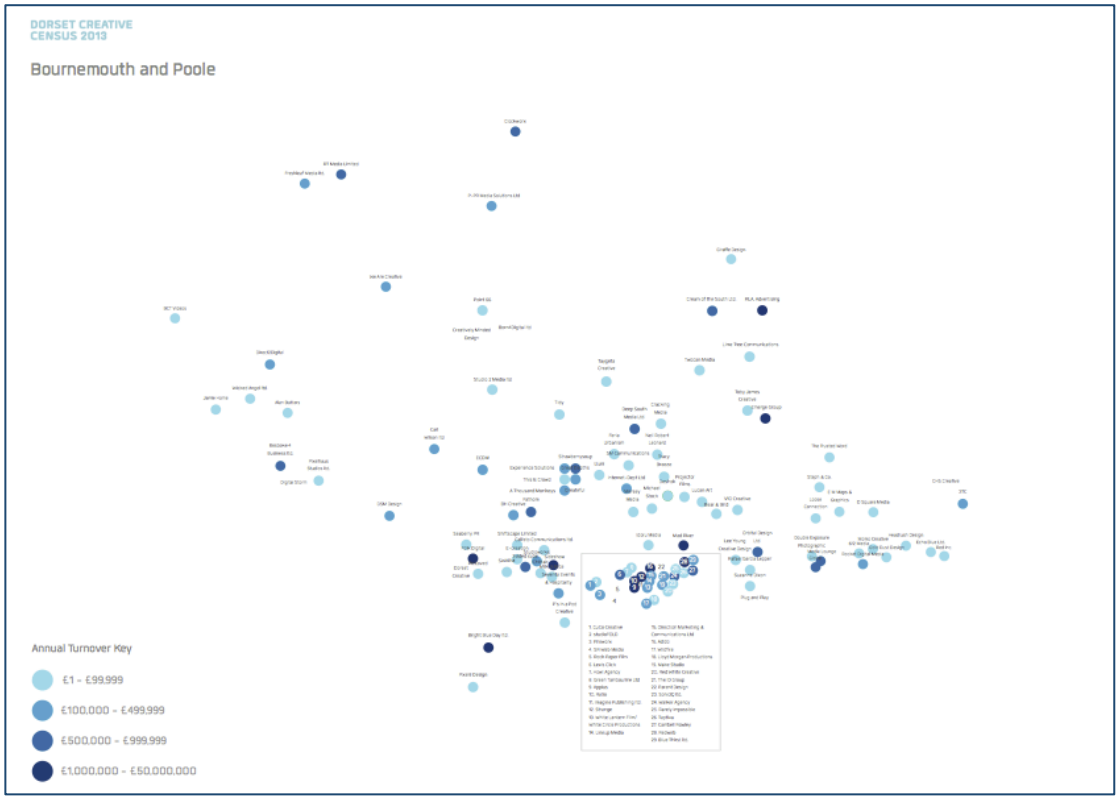
4.2 Evidence of barriers and opportunities for further development and growth in this area

Despite a small number of addressable challenges, no significant barriers were identified. The following subsections describe various opportunities that could be exploited for the benefit of the area. The challenges are then summarised in the final subsection.

4.2.1 Identification of existing cluster development

Matt Desmier (Silicon Beach organiser) regularly polls his contacts to gain a picture of the creative business community in Bournemouth and the rest of Dorset. Figure One maps the creative agency cluster for the Bournemouth and Poole area. (This chart was produced for a presentation of an annual census to a meeting of the Meetdraw network). A similar chart is available for the whole of Dorset showing the 300 agencies in the county.

Figure 1: Creative Agencies in Bournemouth and Poole



4.2.2 Manifesto for Local Creative and Digital Economy

A key plank of the evidence for a vibrant, connected and visionary CDIT sector in Bournemouth is the existence of the *'Manifesto for our Creative*

and Digital Economy' (Dorset LEP Report, 2013). The purpose of the Manifesto is to guide and support the further growth of the local creative and digital economy of Bournemouth, Poole, Christchurch and Dorset in order to become a thriving international hub driving further economic growth. Many of the ideas contained within the Manifesto have their origins in the NESTA (National Endowment for Science, Technology and the Arts) Creative Digital Manifesto of 2013.

4.2.3 Dorset Local Enterprise Partnership (DLEP)

The local council have developed an integrated vision aligned with local businesses through the DLEP[10]. The Dorset LEP is firmly behind supporting the creative digital sector.

4.2.4 Alignment with National Initiatives and Government Agencies

The team behind the local Manifesto are well aware of the importance of alignment with national initiatives and agencies such as NESTA, Creative England and UKTI.

4.2.5 Local Parliamentary Representative Support

Overall, what has clearly come across from all of the people we consulted is an appetite for cultivating the creative and digital economy coupled with a real pride in the possibility of this sector defining the commercial future of this region. It was impressive to see a strong turnout of local dignitaries, local authority members, and MPs at the Bournemouth University 'Economic Impact' presentation[11] that the researchers attended. The creative digital economy was a major unsolicited issue that came to the fore of questions and discussions.

4.2.6 Bournemouth Conurbation as a Desirable CDIT Location

The town of Bournemouth is very different to all of the examples listed in Appendix A. The hot spots of CDIT activity are currently distributed around

[10] http://www.dorsetlep.co.uk - Dorset Local Enterprise Partnership - website
[11] Fletcher, J. (2013) Bournemouth University Economic Impact Study www.bournemouth.ac.uk/about/economic-impact/bu-economic-impact-report.pdf

Bournemouth with the Enterprise Pavilion at the Arts University campus representing the single largest focal point especially in the context of the proximity to the Arts University and also the Bournemouth University Talbot campus.

Bournemouth is characterised by a long coastline of attractive sandy beaches and spread out distributions of housing and shopping areas. The prevalent greenery is partly as a result of conservation areas within the conurbation that curtail building development. As such, the town is a very pleasant and desirable place to live and work. This was a point made by many of the people the researchers spoke to – residents, business people, university students, workers, council officials, tourism professionals and many others.

The desirability factor was further highlighted by young adults who are increasingly drawn to the town because of its 'scene', and also people having had a successful career elsewhere being attracted to locate here long-term and bring up their families. This reflected strongly Bournemouth's 'place' strength in line with this being a significant factor discovered in our desk research for attracting CDIT talent.

In addition to the town centre there are a number of other recognised districts in the area that have merged into a growing metropolitan town over time. A number of these districts have creative communities and pockets of small start-ups. There are also many small-to-medium sized industrial parks across Poole, Christchurch and Bournemouth to where expanding companies can relocate once they have outgrown smaller premises or incubation centres.

However, there is also evidence of a number of initiatives to rethink the options for small business and start-ups in the CDIT sector.

Bournemouth is unusual in having two Business Improvement Districts (BIDs) - one for the town centre and one for the coastal strip.

As town centres generally evolve from the traditional transportation and retail hub model to focus on leisure, social and entertainment activities, there is an increasing awareness that pockets of enterprise such as those presented by CDIT practitioners offer a positive economic and social contribution to a town centre. There are a number of areas around Bournemouth that are being reviewed as having potential for urban renewal, regeneration and socialisation.

In terms of the coastal strip there are plans to evolve from the traditional seaside resources to an informally zoned approach, not unlike Brighton, whereby different activities and resources will attract different communities. These could embrace team and individual sports, games, recreation, educational initiatives, beach and water activities, and wildlife interests, for example. Such a semi-structured model could provide options for low-impact CDIT activities at various points along the seafront, northern areas on the edge of the New Forest, and the Stour Valley.

The Dorset Local Enterprise Partnership (DLEP) is considered an active, committed and forward thinking LEP whose enterprise strategy could greatly support the development of a major CDIT cluster in the Bournemouth conurbation.

Bournemouth University Executive Business Centre is within walking distance of the town's main railway station and offers an impressive meeting and small-medium conference venue. This is a good example of how purpose-designed meeting, conference and work-place facilities could also be options for focusing some of a CDIT hub development. Larger events such as exhibitions and trade fairs are well catered for with existing facilities such as the Bournemouth International Centre, and the town is well established on the political conference circuit, thereby bringing significant media attention to the area.

Bournemouth five-star Hilton development

A new £60M five-star Hilton Hotel with sky bar is currently under construction in Terrace Mount contributing to a range of options available for specialist conferences and meetings in the town. Large hotel capacity appears to be gradually replacing the former plethora of bed and breakfast tourist accommodation, suggesting that a more balanced provision of services for different categories of guests is becoming available. This is a significant potential attraction factor to clients, suppliers and partners of CDIT enterprises, particularly as they expand. Each sub-segment of a CDIT cluster will have clients holding particular preferences for types and levels of service as they come to the conurbation for meetings, overnight stays, CDIT-related exhibitions and conferences. Higher-value business activity generated by the CDIT business sector will mean that business visitor services have to mirror growing demands for attractive, top quality facilities.

Clearly, the CDIT sector could be a stimulus for related services enterprises to invest in the area's infrastructure, thus contributing to a virtuous cycle of economic development.

Bournemouth is less than two hours from London city centre by train and Heathrow/Gatwick by road. Good road links connect Dorset to the Midlands, and important cities such as Southampton, Reading, Bristol, Oxford and Bath are all within a two hour range. Easy access is available to Southampton airport, and Bournemouth has its own international airport – the first transcontinental airport in the UK - where a multi-million pound investment and improvement programme is in place.

With a unique range of architectural styles, internationally renowned coastal strips, breath-taking harbours, and outstanding geological attractiveness, the area has a terrific opportunity for exploiting the 'place' factor in its quest for developing a major CDIT hub.

4.2.7 A Pipeline of CDIT Talent

Bournemouth University and The Arts University Bournemouth both have strong reputations for producing outstanding talent equipped with skills and know-how essential for supporting the development of a dynamic CDIT sector. Furthermore the two institutions have together established the National Centre for Computer Animation (NCCA) that has already established a strong international reputation. More than fifty NCCA graduates contributed to the film Avatar which won three Oscars including best achievement in visual effects[12]. Furthermore, both institutions have their own strong reputations in many creative and computing-related disciplines.

4.2.8 The Enterprise Pavilion

The Enterprise Pavilion (eP) is based on the campus of the Arts University Bournemouth. The building was designed to supply first-class facilities to foster a strong environment of creative and collaborating businesses. In addition to shared core office services, regular social meetings are arranged on the top floor to bring the occupiers together. The occupants represent a good range of long-term tenants and new arrivals. Companies

[12] http://www.theguardian.com/money/2010/mar/06/avatar-digital-effects-bournemouth

that develop and grow leave to find larger premises and Table Three identifies current inhabitants of Enterprise Pavilion[13]

Table 3: Enterprise Pavilion Occupants

The Enterprise Pavilion houses a broad spectrum of creative industry specialists both inside as residents and outside as virtual tenants:

- A Thousand Monkeys – www.athousandmonkeys.co.uk
- Cream of the South – www.creamofthesouth.co.uk
- Createful – www.createful.com
- Creative Leadership - www.creative-leadership.co.uk
- Curious Arts – www.curiousarts.co.uk
- CXL Digital - www.cxldigital.com
- Cyclo Systems – www.cyclosystems.com
- E-Creation – www.e-creation.co.uk
- Experience Solutions – www.experiencesolutions.co.uk
- Fairways Care – www.fairways-care.org
- Footprint Architects – www.footprintarchitects.co.uk
- Framestore – www.framestore.com
- Great Depths – www.greatdepths.co.uk
- LoveLove Films – www.lovelovefilms.com
- On.In.Media – www.oninmedia.co.uk
- Onmass Ltd – www.onmassgroup.co.uk
- Pixelfish – www.pixelfish.co.uk
- Predictive Intent – www.predictiveintent.com
- Side Show – www.sideshowagency.com
- Strawberry Soup – www.strawberrysoup.co.uk
- Sycora – www.sycora.com
- Tasty Marketing – www.tastymarketing.co.uk
- Zubida Movements – www.zmovements.co.uk
- 3 Sided Cube – www.3sidedcube.com
- 4ward Motion – www.4wardmotion.co.uk

The researchers spoke to copywriter Richard Spencer of A Thousand Monkeys about life in the eP. The location is deemed to be a major benefit,

[13] http://aub.ac.uk/about-us/campus/enterprise-pavilion/creative-futures/current-ep-residents/ as at November 2013

as are the support resources. As a copywriter, Richard is also on hand to support the marketing activity at the Arts University.

(Researcher Observational Note: The eP is currently without a figurehead manager and would benefit with someone in this role to drive forward the profile of the Pavilion and its inhabitants).

4.2.9 Silicon Beach Festival

In speaking to Matthew Desmier, previously manager of the eP, we were able to learn something of the history of the very successful annual Silicon Beach Festival[14], which Matthew currently organises. Partly as a result of Matt's dynamism and partly the attraction of spending a few days in the proximity of Bournemouth's attractive beaches, this event has attracted an impressive roster of invited speakers and a steadily increasing number of attendees, year on year.

4.2.10 Centre for Entrepreneurship, Executive Business Centre, Bournemouth University

We spoke to Dean Patton, Head of the Centre for Entrepreneurship (CfE) at Bournemouth and Professor of Entrepreneurship who is based at the flagship Executive Business Centre. The CfE objectives are designed to *"help to create a virtuous circle which links business support, the applied research agenda and curricular development"*. Dean described this role and also the activities as Deputy Dean for Enterprise. Dean's experiences in these roles have given him a solid understanding of the strengths and weaknesses of the various business models that are deployed by organisations across the CDIT landscape. Dean mentioned a number of companies that would be of interest to this investigation: 3 Sided Cube (www.3sidedcube.com) and Black Swan (http://www.blackswanstudios.tv) and C4L (http://www.c4l.co.uk).

4.2.11 Network Infrastructure and Big Data

Having discussed the Bournemouth CDIT infrastructure needs with Peter Tickell of the National Centre for Computer Animation and others we gained a deeper understanding of the high performance, flexibility and security needed in film and television post-production. The film industry is clearly a major constituent of the current emerging CDIT Bournemouth

[14] http://www.siliconbeach.eu - Silicon Beach Festival – Bournemouth - website

cluster and from this we can understand the more generalizable principles of network infrastructure requirements, particularly where 'big data' is concerned.

Network infrastructure is essential for all companies in the digital economy. However, those organisations engaged in capturing live events, film post-production and special effects have particularly challenging needs in terms of storage, data transfer and security.

Dimitra Simeonidou (Professor of High Performance Networks, University of Bristol) and Bristol Watershed enlightened us further. Dimitra is an expert in this field and has designed the high performance configurable network that connects the key sites around Bristol including the Watershed Arts centre. Dick Penny, Director of Watershed has invited us to Bristol in early January to find out more about the configuration of the infrastructure.

The technologies that Dimitra and her team and projects are utilising are referred to as 'software-defined networking' (SDN). SDN offers the possibility of flexible network configurations and rapid transitions for resources down to a very low level. This matters for the previously mentioned arts centres, post-production centres and special effects (SFX) studios. By working with Super Janet and others, state of the art solutions have been implemented for Bristol and could be implemented in Bournemouth. A supplementary benefit of this deep configurability, which effectively creates a series of virtual networks superimposed upon a standard framework, is that it facilitates the interlinking of resources in distributed locations. Hence, easier link up across the region and also the rest of the world.

We have also spoken with Bogden Gabrys (Lecturer in Big Data Analytics, Bournemouth University - Computing and Informatics) who would be another potentially useful contact in the development of the infrastructure to support the emerging CDIT hub. Bogdan also represents Bournemouth in e-Research South.

4.2.12 Regional Connections: Academic and Other

The following neighbouring cities could have an influence on Bournemouth's success as a CDIT hub from collaborator, competitor and partnership perspectives. Each of the following cities has formal and informal links with Bournemouth both at the academic and commercial level. Many people either commute or significantly interact on a regular basis.

1. Bath
    a. Formally connected to Bournemouth through the Centre for Digital Entertainment[15]. Furthermore the partnership between the University of Bath's Department of Computer Science and Bournemouth's National Centre for Computer Animation (NCCA) has recently received further funding. The NCCA is itself a collaborative venture between Bournemouth University and the Arts Institute.

2. Bristol
    a. Bristol and Bath were not visited during the feasibility study. However, their position as a competitor and/or potential collaborator with Bournemouth suggests that they should be investigated in any further study.
    b. Of note is the Bottle Yard film studio located in a reclaimed winery and bottling plant to the south of Bristol[16]. 300,000 sq. ft. of flexible space is available in the form of six studios, a back lot and two production studios are available to hire and there is an experienced production manager on hand to coordinate production at the facility.
    c. As mentioned in 4.2.10 the High Performance Network team should prove to be a fruitful collaborator.
    d. Dick Penny, Director of Watershed, is also keen to interact further.

3. Oxford
    a. The University of Oxford is a key collaborator in the e-Research South partnership. This connection is formed through the Oxford e-Research Centre (OeRC) and individuals there have a keen interest in CDIT matters.

4. Reading
    a. David Rees (co-researcher) is a Visiting Fellow at Henley Business School, part of the University of Reading. The Business School has recently launched a new, innovative MBA for the music and creative digital industries that has responded to a further talent requirement for the CDIT sector – high-level, postgraduate management and leadership competency for developing CDIT enterprises. Reading is also a partner in e-Research South.

[15] http://digital-entertainment.org - Centre for Digital Entertainment - website
[16] Http://thebottleyard.com - supported by Homes and Communities Agency and Bristol City Council

5. Southampton
    a. Steve Brewer (co-researcher) is currently employed at the University of Southampton as Network Coordinator for the university's Utility Network + organisation. Southampton is linked to e-Research South. Winchester School of Art is part of the University of Southampton.
    b. The authors also have connections with Solent University in Southampton which has a strong reputation in CDIT subjects.

4.2.13 Challenges

From the broad spectrum of interviewees, the overriding mood is one of positive determination to achieve something in the area of CDIT enterprise. However, two things will need to be driven forward to achieve this:

- an on-going dialogue between all parties and the wider community to ensure that hearts and minds continue to be engaged;

- a succession of success stories. For the CDIT vision to be convincing people will have to see tangible examples of progress be they new companies, events, products and places. Therefore we see the biggest challenge being to maintain the momentum necessary to create impact in the CDIT sector.

4.3 Potential for replication of the Brighton Fuse Project

The Brighton Fuse Project provided deep empirical evidence of the economic impact of 'fused' businesses that exploit the opportunities presented by market demand for relevant products and services. The findings identify a number of successful enterprises clustered in specific areas of the city that brought together arts and humanities skills with the digital and IT interface to develop high performing organisations and impressive contributions to the area's economic growth.

Their study was conducted over two years by local academics and overseen by the National Centre for Universities and Business (NCUB) and the hub itself. CDIT businesses were mapped and measured for activity and performance with the report's findings calling for a reappraisal of how creativity and technology are 'fusing' and 'superfusing' to provide businesses with a new type of competitive edge that is the culmination of

innovation in management and production. This research identified policy implications for education and skills to support the hub's development and the implications for the local business community, Local Education Partnerships, and Sector Skills Councils.

Ed Vaizey, Government Minister for Creative Industries, commented after reading this report that he wanted to see similar clusters thrive right across the UK.

Our research has demonstrated the existence of an emerging CDIT hub in the Bournemouth conurbation and that there is a strong case for a similar study to examine in detail the state of the CDIT sector in this area. Such research could, like the Brighton findings, help identify the operational strategies for developing Bournemouth as an outstanding CDIT hub with an international reputation.

"*The time is now*," was the message that we heard in many places. There is clearly value to be obtained by commencing a study in parallel with the implementation of the Digital Manifesto.

The world of digital creative industries moves on quickly – it is perhaps the most dynamic economic sector we have ever seen. As such, we can already see gaps in the Brighton Fuse project that could be addressed by our proposed new study for the Bournemouth conurbation. Of particular note is the need to clearly establish the management and leadership capabilities required to provide Bournemouth and other CDIT hubs with a competitive advantage. These competencies extend not only to the CDIT enterprises themselves but also to the infrastructure partners – local authorities, central government, investors, joint-venture participants, and major corporate providers.

5 Conclusions and recommendations

5.1 Conclusions

The Bournemouth Digital Manifesto has already lit the fuse in terms of coordinating and encouraging local support for CDIT in the area. However, there is still much to be done in terms of maximising the potential both in terms of efficiency and also timeframe. Sharing of knowledge, coordination of activity and promotion of the region will all benefit from the kind of perspective that an ESRC-funded activity could deliver. The RCUK model of

a Network+ that sits above the existing networks, enterprises and organisations could offer a number of complimentary benefits.

Research framework

A research framework to support and promote the gathering of best practice across the digital creative sector in terms of new economic models, social interaction and planning of the environment would consolidate the independent research now being conducted in this field. Such a framework could be developed in the next phase of CDIT research and shared universally.

Structured hub development

A clear case can be made for the rapid development of a planned and structured CDIT hub for the Bournemouth conurbation. Already an embryonic hub does exist, clustered around the film production, post-production and special effects industry. An advertising and creative industry cluster is also apparent in the area. This is a sound platform upon which an influential hub can be built.

Time is of the essence as our investigations reveal there is a growing realisation that the creative and digital sector as a whole within the UK and abroad is an attractive economic and business proposition. This is driving competition between cities and regions all over the world to be amongst CDIT hub leaders and already we are seeing new initiatives within other parts of the UK to be within this leadership group. A strong CDIT base of enterprises in Bournemouth could significantly underpin sustainable economic growth of profitable businesses attracting high calibre talent and creating high value employment, and Bournemouth has unique capabilities, resources and opportunities to turn the wishes of many conurbation stakeholders into reality. But the point needs to be emphasised that there is no time to lose in the face of the demand for talent and the available funding opportunities that emerging government policy is now promoting.

Capturing the moment

Provision of financial resources from central and local government, university and broader educational institutions, private and commercial sectors, and various funding agencies is now looking more positive as we see the UK and local economies starting to move into a new growth phase with encouraging optimism.

The necessary political will appears to be in place to support the development of such a hub and already a clear manifesto has been signed off by relevant parties. There is also significant private-sector initiative to mark out a Bournemouth hub as a commercially driven phenomenon.

This study has identified the salient features of successful CDIT hub development and the dangers that need to be avoided. Our view is that the IT and technological infrastructure has to be overseen by local authorities to provide the necessary broadband capacity and speeds, the potential sites that may house CDIT enterprises, and any required transportation and public amenities that can facilitate the hub's development.

On the basis that there is a justifiable case for investment in the development of a CDIT hub for this area a number of recommended action steps can be proposed.

The potential size of such a hub is extremely difficult to estimate as theoretically there need be no philosophical limits to growth. This is a clean, largely green, type of industry sector that has no discernible negative impacts on the environment, the social fabric of the community or transportation systems. Indeed, the opposite can be conjectured with the development of appealing parallel development of related businesses and facilities that could enhance the general standard of living. It is likely that the hub will grow in line with market opportunities, available talent, financial provision and attractiveness of the conurbation for entrepreneurs to locate here. These are broadly market factors.

Constraints to progress

The main constraints are, firstly, related to infrastructure, ICT and broadband capacity.

Secondly, although there is a clear pipeline of talent emerging from the two universities, it may be that as the best of this talent disappears to London and beyond too little remains to sustain a top class local cluster. However, there is currently too little data available to even speculate on this. The universities should be compiling data of their graduates' career progressions so that correlations can be established between talent development and CDIT entrepreneurial performance.

Clearly, there are potential synergies from dovetailing CDIT development with other conurbation initiatives such as re-generation projects, tourism and hospitality sector growth, leisure and amenities improvements, transport

systems and environmental projects. With careful planning and coordination, significant synergistic benefits could be realised.

The time is now

A clear benefit of starting a research project in tandem with such an embryonic CDIT cluster initiative would be the unique opportunity to track the implementation of the Digital Manifesto for Bournemouth and provide objective feedback at an early stage. Such lessons would also be of benefit potentially to other UK regions and overseas initiatives. A number of interview respondents have welcomed this opportunity.

5.2 Recommendations

Based on our research the following seven recommendations are proposed:

1. A comprehensive real-time programme of research that will offer a deeper understanding of the CDIT sector across Bournemouth and the Bournemouth conurbation, and an increased awareness of the issues involved in supporting and analysing CDIT practitioners and their clusters. This would encompass analysis of the technical, creative, economic, business aspects, management and leadership of the initiative.

2. An evaluation of strategic model options and their operational implementation that could lead and sustain the development of Bournemouth as an internationally recognised CDIT hub.

3. Develop a wider regional CDIT support network (CDIT-South) that would harness the existing local networks; build upon the legacy of existing wider regional networks such as e-Research South[17] which links Bournemouth, Southampton, Reading, Bath and Oxford and other Universities, and draw upon other networks such as IT as a Utility Network+[18] and similar communities of interest. The Centre for Digital Entertainment (CDE)[19] that links Bournemouth and Bath Universities would also benefit from this network. Links with CDIT activity in Bristol have also been identified.

[17] http://www.eresearchsouth.ac.uk - e-Research South website
[18] http://www.itutility.ac.uk - IT as a Utility Network+ website
[19] http://digital-entertainment.org - Centre for Digital Entertainment website

4. Establishing a programme of workshops, events and activities that would engage all Bournemouth CDIT hub stakeholders in the development of a local creative, digital economy.

5. A series of pilot projects to develop prototype solutions to connect university research teams, companies and other bodies on the micro, mezzo and macro level.

6. Funding of secondments for experts and specialists between enterprises, public-sector organisations, universities and local government to foster understanding and share skill sets.

7. Promotion and dissemination of the benefits of the local CDIT hub, how hub development can be achieved, and the resources needed for it to thrive.

However, within the limitations of this current study there are gaps in knowledge, a need for further information, and additional specifications. These include:

- Existing infrastructure capacity and future development needs
- The talent pool and future talent pipeline
- Attractiveness of the area for CDIT entrepreneurs and employees
- Conurbation branding and reputation
- Potential CDIT business sites and the associated development requirements

5.3 Recommendations outside scope of current study

A great deal of valuable understanding of the creative and digital economy and CDIT hubs has been gained through the research conducted and it would seem appropriate to share some of this further knowledge by way of signalling aspects of CDIT hub development that need to be considered by the sponsors of a Bournemouth hub initiative. These further recommendations are summarised as:

1.1.1 Operational Planning

- The Bournemouth hub is likely to be structured as an inorganic clustering of creative hotspots around the area. This doesn't prevent

any business development of CDIT enterprises anywhere in the area providing they don't infringe current planning permission requirements but the speed at which hub development needs to run at requires infrastructure leadership. Thus, it is imperative that appropriate locations are identified for hotspot development and that infrastructure is planned for to accommodate the growth of CDIT businesses. Outcomes from potential sites will then form the basis for development planning

- 'Silicon South' - or whatever branding is agreed - will become an important identity for the hub and spearhead a well-planned marketing and communications strategy. This strategy has to be congruent with the holistic image and reputation that Bournemouth aims to develop for the total community.

5.3.1 Implementation

- Research and planning will need to be sensibly sequenced but there will be an iterative aspect to the whole process of hub development and implementation. If the conclusions from this study are accepted - and there is a will to adopt these recommendations - then research, planning and implementation will need to be coordinated and integrated in a phased sequence.
- Whilst a master plan and blueprint for every detail is not tenable, a programme implementation team does need to be formed to coordinate individual projects and initiatives. Given that the thrust of a CDIT hub initiative is coming from private sector led investment, a commercial project management group with CDIT familiarity and experience may be a suitable implementation vehicle. This could be contracted and funded through a formal partnership arrangement between, for example, local authorities, private investors, enterprise owners, external funding agencies, and other relevant parties.

Appendix A: Creative, Digital and IT clusters visited

The following non-Bournemouth CDIT clusters were also visited and observed. Further lessons may be drawn in the future by performing deeper analysis and speaking to key individuals involved in these hubs.

Soho, London

Soho remains the benchmark and role model for the successful, vibrant creative village at the heart of a thriving CDIT economy. The history of film-making in this no man's land between the original cities of Westminster and London is documented in Durmaz[20]. A combination of economic drivers and opportunities have enabled the location to remain at the heart of cutting edge technological advancements in the industry. Walking through the matrix of Wardour Street, Dean Street and Berwick Street today allows glimpses of the old in the form of Hammer House together with addresses for newly refurbished offices for SFX and other post-production specialists. These businesses together with cafes, restaurants and pubs form a vibrant and dynamic ecosystem especially when linked to the production studios and film laboratories out to the west of London.

Hammer House, Wardour Street, Soho, London

Tech City, Shoreditch, London

Tech City (or Silicon Roundabout, as it is also known), is a cluster of hi-tech start-ups and creative digital companies of various sizes that have chosen to occupy an area of underutilised office and

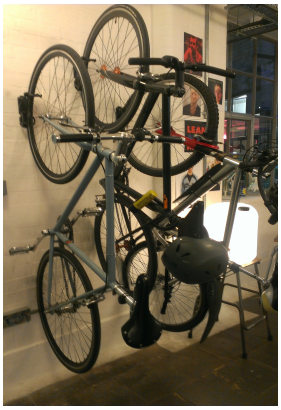
[20] Creative clusters and place-making: analyzing the quality of place in Soho and Beyoglu, PhD thesis by Durmaz, S. B.

warehouse buildings. The location also had the twin benefits of being adjacent to the City, heart of financial services in the UK and the fashionable Hoxton, heart of the East End artistic community.

The Tech City CDIT hub originally emerged by chance as a result of local factors and driving forces, but as a result of various meetings between Prime Ministers David Cameron, Gordon Brown, and public/private sector organisations a more formal structure has emerged to steer and support the area.

Tech City thus now contains a mixture of well-established CDIT start-ups, Government supported initiatives including the Open Data Institute for example, and incubation units such as the London Campus that Google manages in a low-key way that underplays their involvement[21].

In TechCity we visited leading digital product and service studio ustwo[22] and spoke to global design director Joe McCleod. Over the last year Joe contributed to a successful campaign called #IncludeDesign initiated to persuade the government to include design in the National Curriculum[23]. Ustwo employs a number of Bournemouth University graduates.



Tech City company ustwo – hang up your bike on the way in...

We also talked to CDIT entrepreneurs, corporate partners such as CISCO, Tech City investment organisation, and operational staff.

[21] The authors visited the Google London Campus on 24 October, 2013 and talked to one of the occupants about their business strategy.

[22] http://ustwo.com - ustwo – company website

[23] http://ustwo.com/blog/the-include-design-campaign-round-up/ - blog post on the #IncludeDesign campaign

Perhaps one of the most enlightening discussions we had whilst visiting Google's Campus London[24] was with a foreign entrepreneur[25] who had previously visited Tech City only a few months prior to this study as a postgraduate business analytics student with the University of Zagreb, Croatia. Her story of why she had come back to the UK and set up an enterprise within Tech City revealed the attractions of the CDIT hub, here, and the comparable advantage of establishing a new company in the UK due to more attractive rules and regulations concerning business formation and investment opportunities.

MediaCity UK, Salford Quays, Greater Manchester

MediaCity, UK represents a new take on the CDIT village[26]. The development company Peel bought the Manchester Ship Canal at a time when the location was deemed unsalvageable by many and set about transforming the area. Having gradually built up properties on the land on either side of the Canal, they have succeeded in creating a vibrant media environment that has attracted the BBC in their drive to relocate to the North of England as well as ITV companies. In addition to various studios and other businesses, the relocated Salford University is also delivering a pipeline of talented graduates for the local industry.

In addition to the substantial ITV and BBC presence at MediaCity UK, a wealth of small companies exist as feeders and support agencies. Many of these have been managed in an exemplary manner within the incubation and service office enterprise, 'The Landing'[27]. This initiative occupies the top seven floors of the tower block behind the BBC studios used for The Voice among other flagship productions.

The Landing has been structured deliberately like a vertical instantiation of a Soho street with different floors offering various categories of services: digital workflow where new products can be developed, interactive media labs where usability analysis and technical testing can be carried out, managed office space for production companies, and the Landing Post where post-production

[24] http://www.campuslondon.com

[25] Ana Burica ana@teddytheguardian.com

[26] Steve visited MediaCity UK for the RCUK Digital Economy conference, Open Digital, on the 4-6 November, 2013

[27] http://www.mediacityuk.co.uk/occupiers/the-landing - The Landing - website

can be linked to the other floors and also the neighbouring studios. There are also floors for screenings and events, and the seventh floor houses the impressive members' lounge that supports the social and networking activities within the building and its neighbours. Steve Brewer spoke with Jon Corner, CEO of the Landing about the CDIT initiative and Bournemouth and he expressed interest and agreed to visit and speak at a future event in the town. The Landing team have recently struck a deal for a similar linked venture in TechCity[28].

MediaCity, UK, Salford Quays, Greater Manchester

Brighton, SuperFused City, Brighton and Hove

Brighton has indeed made a name for itself over the last decade as a vibrant centre for digital media production and services. This has been well captured and articulated in the Brighton Fuse report[29]. This success has been significantly predicated on its attractiveness as a place to live for those wanting a unique mix of the cosmopolitan working environment and seaside leisure activities. However, key factors in this development are career opportunities, house price influences and the efficient one-hour train connection to the centre of London. Brighton is often seen as a 'playground' for the 'London set'

The CDIT phenomenon is described elsewhere in this report and in particular how this sector has emerged over the last decade. This is partly as a result of the reduction in costs of the technology for entering this market. In the late eighties and nineties companies such as Lighthouse in Brighton supported film-makers and video production in conjunction with the regionally structured Arts Council.

The "super-fused" city of today is centred round the central area of the North Laines. CDIT workers are attracted by the lively

[28] http://www.mediacitydaily.co.uk/2013/11/the-landing-strikes-deal-with-tech-city-facility/ - The Landing strike deal in TechCity.

[29] The authors both attended the launch event for the publication of the Brighton Fuse project in Brighton on the evening of the 15th October, 2013

atmosphere of this area which is characterised by its cafes, independent shops, and the proximity of the beach with its bars and restaurants. It remains to be seen how and where this tightly packed community will grow in the future.

Harry Potter, Studio Tour, Warner Bros, London

No longer a production studio, the Leavesden Film Studios near Watford were converted by the owners, Warner Brothers, into the hugely popular Harry Potter studio tour in 2012[30]. Every ten minutes groups of over a hundred visitors enter into an enveloping experience that reveals fascinating insights into the wealth of production skills that were involved in keeping four thousand skilled creative technicians employed over the course of the ten years of production at the studio. These skills covered: wig making, costumes, special effects, animatronics, set construction, graphic design, art works, prop making, model making, back projection, CGI, lighting and cinematography. Script writing, directing, sound and picture editing and music are also presented.

Overall, the tour experience is a persistent reminder of the economic and social benefits of a hugely successful cinematic franchise.

Harry Potter: Warner Bros. Studio Tour, London

Digital Enterprise Greenwich, London

The Greenwich Peninsula was visited by the writers in order to conduct an interview with Maria Slowinska, Innovation Programme Manager at Cisco Systems. Cisco Systems have a base on Greenwich Peninsula within the Digital Enterprise Hub[31]. The Cisco team have had considerable success supporting local businesses to win TSB calls. This is an example of a local government organisation that is

[30] The Harry Potter Studio Tour was visited by Steve and family on the 9th November, 2013

[31] The authors visited Cisco at Greenwich on 24 October, 2013.

partnering nearby academic institutions and commercial business partners to re-energise an economy that has radically evolved over the years. The 02 Arena is located there which contains a major concert arena and also Ravensbourne College.

Cisco: digital peninsula

Appendix B: definition of CDIT concept

1) Creative and Digital Integration

Steve Jobs saw Apple as a company at the intersection of technology and liberal arts. Such a high profile company provides us with an easy-to-see example of how a business organisation's success has been the product of channelling creative talents into digital formats and executing the outputs within a technological environment. The results – beautifully designed, expertly engineered, attractive, innovative and novel products.

Reporting in 2010, a CIHE report[32] uses the concept of *'fusion'* to describe the combination of creative arts/design with technology as a critical driver of innovation and growth in the creative digital economy. Adopting this position as the basis for their comprehensive study of a CDIT community in East Sussex (Brighton Fuse Report, previously cited), a research team indicated that this 'fusion' concept has implications for the way in which we define and measure the CDIT industries and sector, and our understanding of the interfaces between local stakeholders – universities, industries, businesses, and economic development strategies.

Because of the comprehensive nature of their study and the currency of their report the Brighton Fuse project represents a cornerstone of understanding for the conceptual nature of creative and digital integration built on the platform of IT infrastructure. Quoting from their report, the following extract illustrates the interdisciplinary effect that is referred to as fusion:

"For example, in computer generated animation, post production, or video games development, artists and designers create characters and worlds to watch, interact and engage with. This interaction and the seamless film-like motion of these virtual environments are attributable to the software engineering and content management skills of computing. Similarly, the development of design skills for the web necessitates the continuous upgrading of skills to include the production of designed content that fits with the interfaces of the internet. Audio-visual productions have increasingly expanded to digital platforms".[33]

[32] CIHE (2010) 'The Fuse: Igniting High Growth for Creative, Digital and IT Industries in the UK'. www.cihe.co.uk/wp-content/themes/cihe/document.

[33] *Brighton Fuse Project Report, Page 4, October 2013*

The Brighton researchers make a further distinction between 'fused' enterprises and 'superfused' ones, the latter being classified as such due to their strong orientation towards the combination of creative design and technology in their work.

It is clear that companies able to identify and exploit the opportunities for 'fusing' these talents and resources have a distinct potential for gaining competitive advantage in the new creative digital economy.

2) CDIT Sector in the UK Economy

With and without government support, the UK has taken a lead over its European neighbours in its development of the CDIT sector. Indeed, the UK fares well in comparison with other countries further afield employing 1.35 million people to generate £69.9 billion in UK GDP terms.[34] A 2011 CBI report suggests that the UK has the largest creative industries sector in the world, contributing between 6 – 8% of national output[35]

It is estimated by the CBI that there are approximately 182,000 UK creative industry companies (not including traders) and of them 84% employ fewer than 10 people (Sector Skills Assessments for the Creative Industries in the UK, Skillset and Creative Skills, 2011).

3) CDIT Hubs

A trawl of various literature, documents, reports and media relating to communities of CDIT enterprises that are in relatively close physical proximity to each other within defined geographical boundaries indicate that terminology used to describe these business communities was initially used interchangeably. Now, there is a more discriminating application of these words and expressions that relate to different formats of enterprise groupings. These include, *clusters, ecosystems, forums, co-working, incubators, science parks and technology enterprise centres*.

[34] 'Creative Industries Strategy 2013 – 2016' Technology Strategy Board Sept 2013
[35] 'Skills for the Creative Industries' CBI Brief Sept 2011 www.cbi.org.uk

'Clusters' has become a regular term in the formal literature to describe the geographical agglomerations of organisations that come together to compete, collaborate, share and exchange knowledge, innovate, and grow.

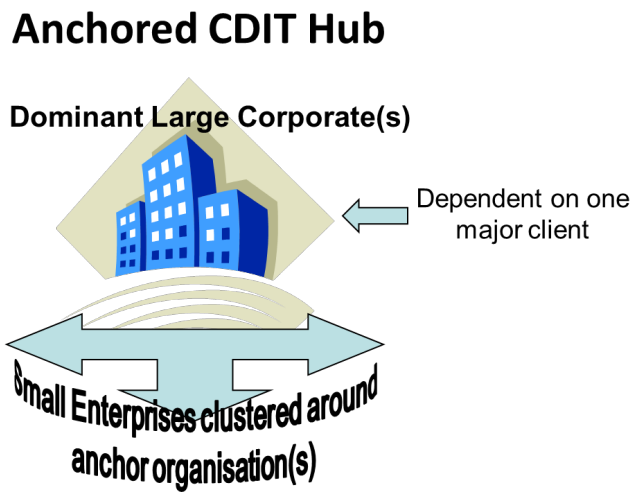
Pre-dominantly, we use the term '*hub*' as this most closely fits with the study's intentions to examine the feasibility of developing a community or communities of CDIT enterprises within the Bournemouth conurbation. However, other choices of terms could be used in the context of this investigation and we are happy to accept that.

More important than deliberating over terminology is to explore the various formats that such hubs or enterprise communities can take, and from our research we have identified the following pre-dominant types of community

3.1) Anchored CDIT Hub

This is a form of hub dominated by one or a small number of major organisations – usually large corporates – who become the anchor for a development of smaller enterprises. Figure 2 illustrates the conceptual structure of this type of hub.

Figure 2



The logic behind such a structure is to enable a mature organisation to benefit from the CDIT outputs of smaller firms, sole traders, and freelancers. Thus the dominant company spawns enterprise development to create new

ideas, products and services for the 'parent' who may also gain cost reduction and speed-to-market advantages from their partners.

Often these types of hubs are developed strategically by government and local agencies as a means of stimulating general economic growth. Relocation decisions by commercial companies and public bodies for access to special resources (for example - university talent, dock facilities or airports) are often reasons for hub development of various kinds. A good example of this is the Dublin, Ireland, creative hub set up in the first decade of the new millennium.

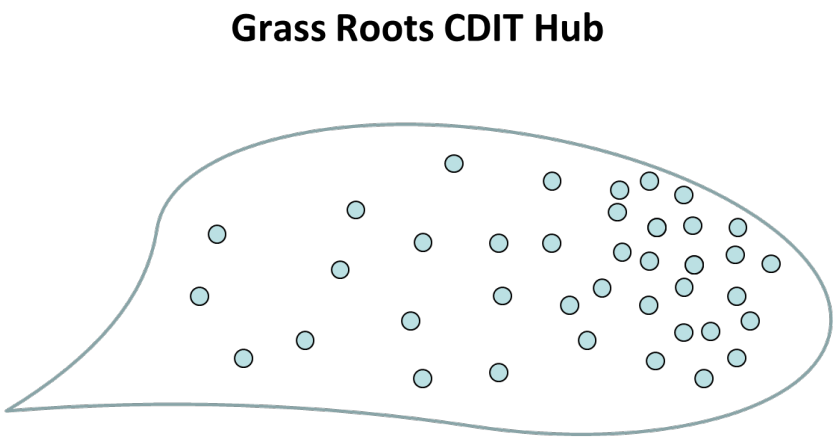
Other drivers for such hub development could come from government and regional initiatives to disperse certain industries to other locations. This could be for a number of reasons – equitable distribution of work, economic multiplier stimulus, need for brownfield/greenfield site - and Media City in Salford, UK, is a good model in this context.

The BBC decided to relocate many of its broadcasting services and television production facilities to this area and a new 'mini digital creative city' was created on the site of a decayed brownfield zone. Now the BBC will be joined by competitors as an expansion of this hub takes place.

3.2) Grass Roots CDIT Hub

This is the converse of the planned, strategic hub that is managed in an orderly, top-down structure. Here, we can now identify a community cluster that has emerged almost by accident. The hub's true origins may be difficult to trace but the ultimate hub development is clear to see. There is little formal management and organisational structure to the hub – at least relating to the formalisation of relationships between hub members – and there is minimal interference from outside. Figure 3 captures the emergent nature of this hub development.

Figure 3



Evolution of individuals and small enterprises into a cluster of connected businesses

An outstanding example of this CDIT ecosystem can be seen at Tech City, an area of east London focused around Shoreditch. Folklore has it that in the 1980s a small colony of artists, actors, writers and musicians migrated in dribs and drabs to this part of London, attracted by the relatively low-cost rents for living and 'hanging out together'.

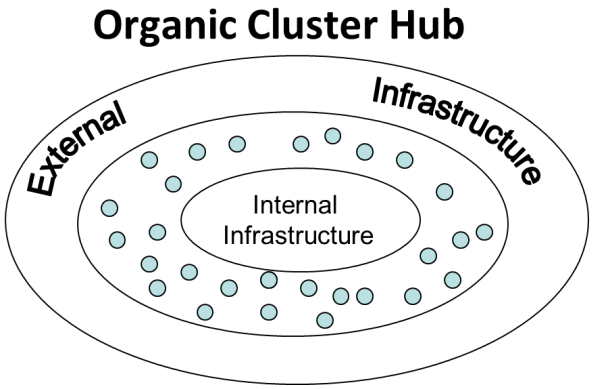
Over the next two decades the area gradually became more 'hip' and started to attract broader types of creative people – the new 'techie geeks and nerds'. These were enthusiastic entrepreneurs that didn't come with strategic business plans but were more driven by the freedom to create and innovate using IT. Again, lower costs of living and working were prime factors in their location, here.

Until recently there was no formal identification of Tech City as a designated CDIT hub but it has become recognised as such largely through informal viral communication, reinforced, of course, through social media. When the big corporates and big government saw the success and future potential of the hub they became involved, often extensively with significant investment. Companies such as CISCO now see the value of supporting fledgling CDIT enterprises through incentives, loans, grants and partnerships. The UK government has set up the Tech City Investment Organisation through its UK Trade and Investment Office.

3.3) Organic Cluster Hub

This category of CDIT hub is perhaps best visualised as a mature hub developing from a loosely assembled group of enterprises. There is a deeper history behind the collection of businesses within a defined geographical boundary with a clearer sector identity that they serve. Figure 4 reflects this.

Figure 4



The organic cluster hub combines a rich Bohemian quality of its environment with a strong formal business ethic to produce a readily identifiable business community of small, medium-sized and large firms. The success of this cluster is extensively known, both inside and outside the sector.

Soho, a well-known area of central London, is typical of this kind of hub model. It had its initial contact with the film industry over about 100 years ago and has progressed through various stages of hub development to become recognised as a centre of the global film industry, particularly production and post-production specialisation. The area even attracts tourists on the strength of personalities who work in the film industry.

The tightly defined geography of the cluster produces a serendipitous attraction for existing and new enterprises, bringing CDIT industry professionals into frequent, opportunistic contact with one another. This cluster also typifies the separation of work and home that often accompanies hub maturity with most of the workers in Soho now commuting to the cluster rather than living there.

3.4) Inorganic Cluster Hub

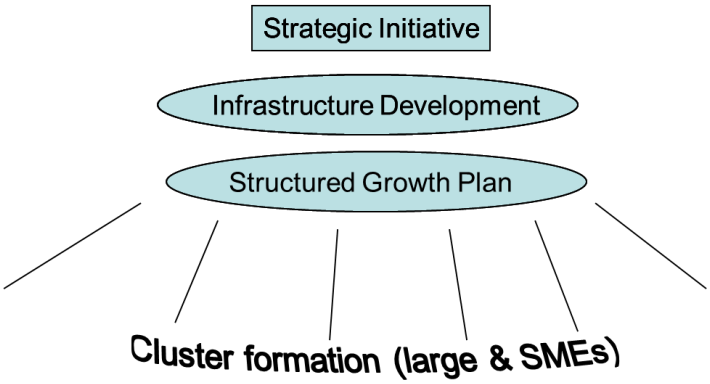
As a variant of the organic cluster hub we have observed how clusters may be shaped by external influence and strategic direction. In this situation there are two ways in which hub development can be encouraged and consolidated.

The first is where there is a definite plan, infrastructure and investment programme to create a new, formalised hub. Often this will be initiated by a local authority with a mixture of public and private-sector finance for medium and long term sustainability.

The second is where a hub – semi formalised or un-formalised – is then given infrastructure and organisational structure to accelerate the growth, protect the hub from decline, or to take advantage of new opportunities such as specific industry sector leverage.

Figure 5 illustrates the two developments.

Figure 5 **Inorganic Cluster Hub**



Wired Sussex – the cluster coming under the scrutiny of the Brighton Fuse researchers – is perhaps typical of the second of these hub types where there was no evidence of local government seed investment. Local economic environment features certainly proved positive at various points in the development of the cluster and this environment is certainly shaped and engineered by public policy initiatives.

Canary Wharf in London could be seen as a top down initiative that aimed to relocate major parts of the banking and financial services industry into its own cluster zone as part of a regeneration programme. Similar public-led

schemes in Barcelona, Montreal and Melbourne have been initiated that have transformed industrial space into creative digital clusters.

3.5) University Linked Technology Enterprise Hubs

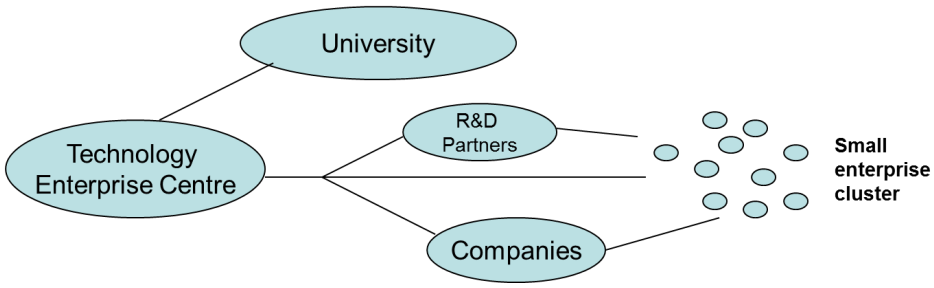
Over the past 30 years we have seen the emergence of enterprise centres growing either directly on university campuses or in close geographical reach of university sites. Initially, many of these initiatives were based on the science park model where universities themselves recognised the increasing value of their IP and exploited this through forming partnerships with commercial organisations. Such joint ventures and alliances were often located on university sites.

Variants of this approach have now developed that bring more of the recognised hub features. Particularly common is the technology enterprise centre where fledgling high tech and creative businesses are brought under the incubation care of a larger company. Sometimes whole R&D functions are developed by the bigger corporates along these lines.

Figure 6 expresses the notion of this form of innovation hub.

Figure 6

University Linked Technology Enterprise Hubs



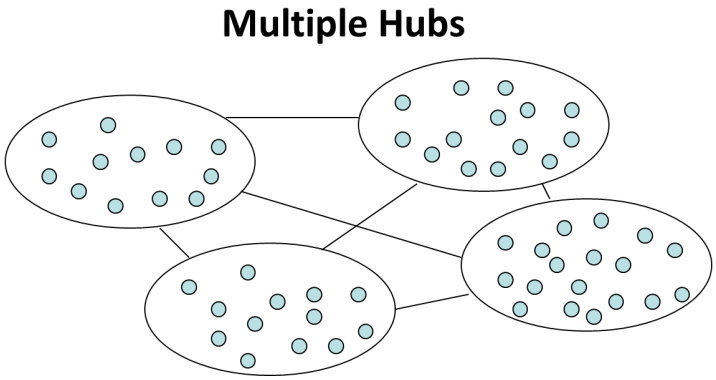
3.6) Multiple Hubs

Our final identifiable form of hub development is the agglomeration of differentiated hubs that may serve different niches within a particular industry. So, for example, under the theme of 'creative and digital media' there could be centres of enterprise that cluster together individually but are

distinctly linked. We could have a film production cluster, another cluster focusing on special effects, a further cluster that specialises in music, and a fourth one that concentrates on film science.

Figure 7 demonstrates the concept under consideration.

Figure 7



The multiple clusters of the film industry in Turkey can be vividly seen in a study conducted at the University of Nottingham (Bahar Durmaz, S July 2012). In this research the author terms these discrete clusters as *'creative hotspots'*.

4) Business Models within Hubs

Recent research (Brighton Fuse, Henley Business School, CBRE, for example) has indicated differing business models that can be observed within these hubs or that can be predicted to emerge as technology advances, economic development transforms towards the CDIT sector, social preferences shift, and wholesale cultural change takes hold.

For the purposes of this current study these models are not discussed in detail but will be referred to in what considerations need to be taken into account as decisions are made on the development of a CDIT hub in the Bournemouth area.

5) Characteristics of Successful CDIT hubs

Our study focused on three key elements of hub development:

- Location factors: 'Why do businesses and people involved in organisations cluster in urban areas and how are clusters structured?'
- Cluster characteristics: 'What characteristics support the clustering of CDIT businesses?'
- Initiatives: 'Do specific strategies, policies and interventions encourage the emergence, growth and sustainability of CDIT clusters?'

From the various case studies evaluated, site visits, interviews, and analysis of secondary data during the research process a number of features emerge as potential drivers of sustainable creative and digital IT hubs.

The extensive review of the Soho film industry cluster by Durmaz (2012) has proved to be one of the most comprehensive pieces of analysis we discovered and this was underpinned by sound academic theory of urban development and a creditable methodological approach. Features of this and other study findings cluster are categorised in the following sub-sections with input from the authors of this current report based on their own findings.

5.1 Socio-cultural aspects

When interviewed the research subjects expressed a real 'sense of belonging' and that business owners and workers did not feel isolated. Film and media crews particularly warmed to 'being in the mix', 'being around', being part of the crowd'. These features were also observed by the Brighton Fuse researchers and our own interviews described the warmth and edginess of 'the scene' in the Bournemouth cluster of advertising-based enterprises. Other interviewees during our research highlighted similar responses in reply to our questions on this theme.

As we have seen, the creative and digital industries tend to be built on youthful talent initially with a steady flow of younger people. This often brings with it a more cosmopolitan lifestyle with tolerance for diverse personalities, behaviours and cultures.

Many of the hubs we have observed have spawned a range of associated businesses where sociability can be supported and enhanced. Outstanding amongst these is the 'café culture', manifested in the growth of food and

drinks establishments within a hub. We have found some interesting concepts of how these social desires may be 'engineered' as built environment specialists create schemes to tap the attractions of co-working and hub development.

Among these is the proposition of the 'Workshop' from an architectural design company, cbre.[36] Here, we are reminded of the way in which business dealings used to be conducted in pre-Victorian England coffee shops and that we are perhaps returning to the attractions of the 'buzz' and conducive trading atmospheres of those times as we seek inspirational working environments that align with the changing preferences of business owners and employees. Edward Lloyd may be considered a true forerunner of the informal workplace offering convenience, community, commerce and.....coffee!

> *'Engage in the experience of work as we would engage in leisure activities'*
>
> (cbre report 'The Workshop' 2013)

5.2 CDIT Place Perceptions

Many people we interviewed and consulted returned frequently to the 'atmosphere of place'. At Tech City, for example, we found the Google Campus building had a distinctive 'edge' with people coming and going at different speeds, what appeared to be chaotic work environments, unfinished pot noodle dishes left around workspaces, excited conversations on stairwells and foyers..... Yet there was available quieter space when we wanted to discuss the technicalities of a new product designed by a foreign CDIT entrepreneur.

At an earlier event organised by one of the researchers there were more formalised facilities available for presentations from a large corporate partner at Tech City yet the creative and innovative atmosphere of the place was never lost. Entrepreneurs at this event expressed many of the desirable attributes of 'place' that were found elsewhere – image, quirky, Bohemian, exciting, safe and creative.

The Soho study brought out the seediness and even dirtiness of the area as an attraction! Many business owners and their staff clearly relished the

[36] cbre.com

image of Soho as media-centric – immediately recognisable at an international level.

5.3 CDIT Physical Location and Layout

As we have seen, many clusters and hubs have developed spontaneously, sometimes accidentally. The older hubs usually have an abundance of appealing architectural surroundings and this can create a preferential contrast to post-war office development and the more contemporary architectural styles. But it isn't always the case that 'old' is 'better'.

The Enterprise Pavilion at the Arts University of Bournemouth was regarded as an attractive working environment that could provide a 'scene'. Some respondents stated how much they values functionality as opposed to quirkiness.

Convergence of 'old' and 'new' styles, differing size of buildings (although small-scale was viewed as more desirable) and architectural diversity were referred to as desirable features.

There was a general consensus regarding the physical identify of a hub, though. In Soho, there are very clear boundaries to the cluster with a positive attitude to space sharing on the streets between pedestrians and vehicles. The 'back routes' down alleyways, courtyards, lanes and mews was not only attractive as a built environment format but also had practical uses as short cuts for runners carrying film from one place to another, for example.

Proximity (to other businesses/customers/suppliers), centrality, accessibility and convenience were often cited as features impacting on hub attractiveness.

Compactness of the hub that creates easy internal movement and access was often regarded as a desirable feature – walkability and permeability, in particular. Perfect movement was not regarded as essential and the Soho subjects enjoyed the hustle and bustle of the street scene, with tourists getting in the way whilst celebrity-spotting and unfamiliar visitors meandering around.

Local facilities such as shops and leisure opportunities were deemed attractive to people working in the hubs we researched and a late-night scene was often welcomed. This raises the issue of work and living

integration. In established hubs such as Soho the physical make-up of the area has changed to an extent where little residential property is available and thus most of the workers now commute in from outside. As business owners grow older, raise families and develop new priorities the late night drinking scene is not so essential as an attraction. For younger new entrants to the hub this would still be a benefit, as expected.

5.4 CDIT Creative Output and Business Success

The primary reason for locating within a hub has to be the ultimate success of an enterprise. The hub environment brings together entrepreneurs and workers who see the advantages of an environment that facilitates cooperation and collaboration, knowledge sharing, joint venturing, and synergy from being a member of a special business and social community.

A study by Clare (2012) on Spitalfields in London examined advertising agency clustering and found that individuals and companies cluster in particular cities and neighbourhoods for ideas, inspiration and face-to-face communication. Advertising, she found, is a highly place-specific practice which is localised in urban settings, where concentrations of specialised services and institutions support this business activity. These places, she observed, cultivate the social milieu that is conducive to the production of creativity and fulfils many functions – interactions with other creative groups, learning from cosmopolitan surroundings, and career/job opportunities.

5.5 CDIT Talent

It is clear from our investigations that successful CDIT hubs are built around people with unique talents. This was evident from our discussions with academics from various universities and seasoned practitioners.

As a real time study of the development and performance of the Wired Sussex CDIT hub, the Brighton Fuse is undoubtedly the most far-reaching evaluation of such a business cluster in the UK. Indeed, the report contents are likely to attract interest from an international audience of academics, practitioners, politicians and business leaders as an example of impressive CDIT hub development. Thus, we quote extensively from the report contents, from our attendance at the report's public presentation in October 2013, and the informal discussions we had with researchers and other project participants/stakeholders.

The Brighton Fuse project revealed the Wired Sussex CDIT cluster is an example of fused and super-fused individuals and enterprises that are breaking down the traditional siloes between arts and ICT. 85% of CDIT leaders possess degrees and 25% are postgraduates. Here, we can see evidence that CDIT firms are employing specialists but creating an interdisciplinary environment and workforce to harness the best of arts and humanities graduates (32%) and scientists/computer engineers (21%). (Press Release, Brighton Fuse, 15th October 2013). The report provides deep empirical evidence of the economic impact of arts and humanities skills as drivers of innovation and growth in the digital economy.

We attempted to find similar correlations between graduate and postgraduate talent coming from the two Bournemouth universities to the emerging creative and digital cluster in the local conurbation but data was not available to gather. However, our interviews indicated a strong belief that a large proportion of creative and digital enterprises in the area had such qualified talent as business owners and/or professionals working in these organisations. A general conclusion is that successful CDIT hubs – Silicon Valley, Tech City, Wired Sussex and the formative cluster emerging in Bournemouth, as examples – all depend significantly on university talent for long-term sustainable success.

If we also now factor in how and why university talent is kept in the local community and the success of attracting external graduate talent, we can see that the attractiveness of local educational institutions and the appeal of the town/city/district are two critical influencers in the pipeline and flow of such talent.

5.6 Local Environment Attractiveness and Facilities

The educational theme continued to come out as a main issue for entrepreneurs and employees to consider regarding schools for their children. Good schools (local authority, academies, free, and private schools) were an important factor.

Proximity to London comes out as a desirable but not essential location differentiator concerning hub location for prospective entrepreneurs.

Social, leisure and entertainment facilities were also cited as potential advantages for hub membership.

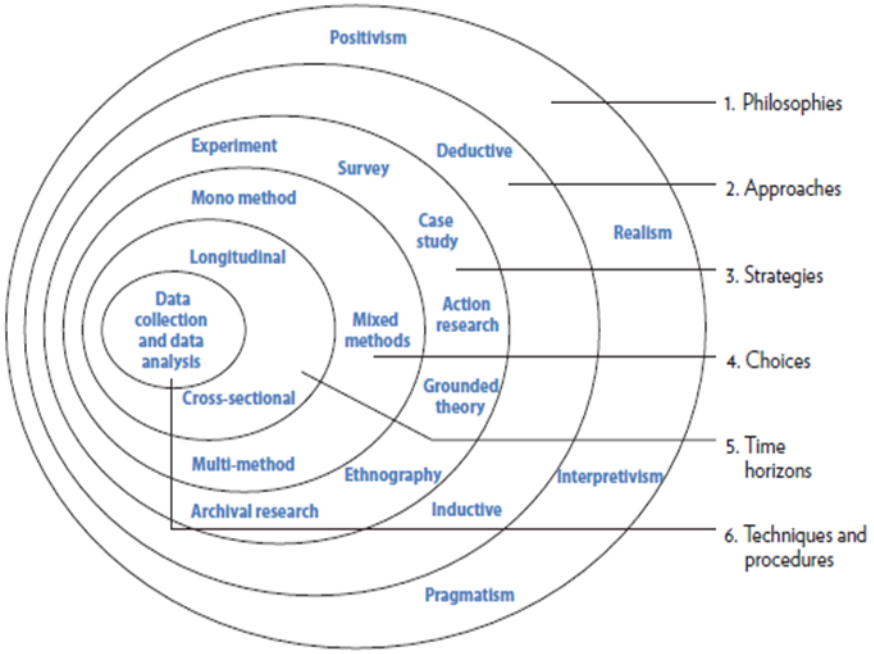
Appendix C: Research Methods

1) Broad methodological principles

Whilst not strictly needed for the feasibility study, a research methodology framework was outlined in order to guide the activities with a view to developing these for subsequent activity.

The researchers have adopted the 'Research Onion' concept (*Saunders, Thornhill and Lewis, 2006)* as the framework for the methodological approach taken in this study. The 'Onion' is illustrated, below, as Figure 8 and identifies the categorisations and methods selected for the investigation, with brief explanations.

Figure 8: Methodological Approach



Based on: *Research "onion" model* of investigation design choices by Saunders et al. (2009).

The research philosophy adopted is one of pragmatism. This is an impartial investigation that seeks to enquire into a proposition and report back. There is a high exploratory orientation to the study.

It follows that the overall research approach is inductive as the investigators attempt to build a position against the proposition rather than test out a hypothesis or theory.

A combination of rich primary data collection and case material defines the fundamental strategy to be followed for the investigation.

Methods for obtaining data will be mixed to obtain qualitative input and quantitative secondary information.

A cross-sectional time horizon is most appropriate for this short viability study.

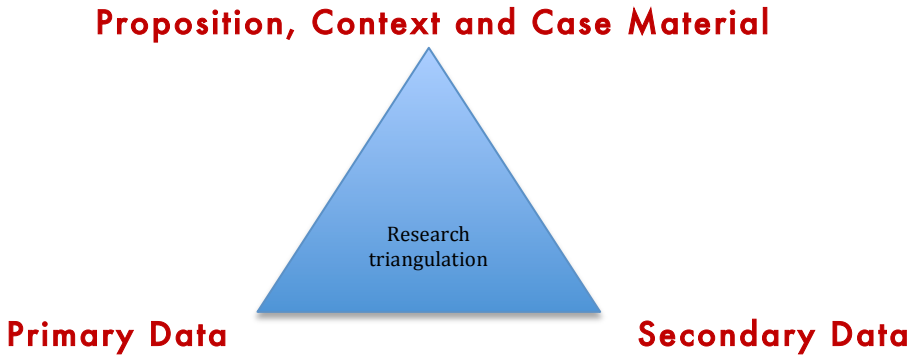
Data collection techniques will consist of formal, semi-structured interviews with an appropriate sample of participants to capture primary data. This will be triangulated with existing published quantitative and qualitative data that can provide context and potential contrast/verification to the primary data collection.

Sampling will mainly draw on the convenience method focusing on opinion leaders, experts and key stakeholders. If appropriate and desirable, further consultations may arise through the snowball sample method.

2) Triangulation

Whilst validation is not so important for this viability study the reliability of conclusions and recommendations formed may be improved by triangulating case histories with the analysed interview data and secondary data obtained. This triangulation principle is shown, below, as Figure 9.

FIGURE 9: RESEARCH TRIANGULATION



3) Ethical Issues

There are a number of ethical issues that can arise or need to be considered when conducting any research project. The ESRC's ethical principles were understood and adhered to throughout the completion of this study.

Appendix D: Interview framework

Interview Design

Interviews have been selected as the key method for obtaining primary data in this study and these fall in to two main categories – 'standardised' and 'non-standardised'. For the purposes of this exploratory study the researchers will develop a largely non-standardised approach to interview design and content analysis but, where appropriate, some degree of standardisation will be considered as the fieldwork progresses. The researchers will conduct these interviews on a one-to-one basis, face-to-face initially. Should opportunities arise where group interviews or focus groups could yield useful qualitative output these will be considered and implemented subject to ease of administrative arrangements for both research and participant.

Telephone and e-mail interviews may be carried out as appropriate Given the nature of the investigation topic it may be feasible to use social media methods for primary data gathering and if this tactic is used the researchers undertake to conduct this in a highly transparent.

Interviews will take a semi-structured format as we will develop a suitable framework to work with where each element of the framework will be explored via the participant discussions. We are not testing an existing model but trawling for ideas against a pre-determined framework – thus a semi-structured approach will be most suitable. The asking of open questions – where the participant can answer in free form – can also be useful as part of an exploratory investigation.

The following framework was developed to guide the question structure:

Table 4: CDIT Feasibility Study Interview Design

Element under Scrutiny	Field Questions	Analytical Method	Relevant Academic/ Documentary Refs.
Definition of Concept			
	1. What does this term mean to you?	- collect in descriptive mode	Creative Industries Strategy 2013-2016

a) What is a Creative Digital IT	2. Are there differences between:	- collect responses	(Technology, Strategy Board, Sept 2013)
Hub?	- Hub		
	- cluster		
	- enterprise centre		Communian, R. 2011
	- forum		Creative Prod. Networks
	3. How does IT fit into the creative economy?	} check for understanding	
	4. Does IT support other creative industries?	} probing 'driver' vs 'support'	Harvey, D.C. et al
	5. Is IT a driver of other creative industries?		2012 Creative clusters beyond the city
	6. Can/should a 'Hub' be planned as part of a defined	}	
	regional economic strategy, **or**	}	Tremblay, D.G. et al 2012 Comparative clusters study
	- can/should a 'Hub' emerge from grassroots	} initiative to be 'top-down' or	
	initiatives, **or**	} 'bottom up', or ...?	
	- a combination of both	}	
b) Current understanding of the	1. What initiatives are you aware of that have begun in	- list and clarify	'Mapping the Creative Industries: A
concept in relation to B'th/Poole/	B'th/Poole/Xchurch + Dorset area to enable or		Toolkit'. (British Council, 2010)
Xchurch/Dorset area.	develop a CDIT Hub?		
	2. Are you familiar with other initiatives elsewhere?	- list (probe for detailed knowledge)	Dorset LEP Digital Manifesto 2013
	If so, could you name and describe any?		
	3. What is your understanding of CDIT government	- probe for understanding at national	
	policy in its application to this area?	govt. level + dissemination to local level	
	4. What potential benefits are there to a CDIT Hub in	- probe + list against pre-determined	
	this area?	codings	
	5. Are there risks?	- " " " "	
	6. Can you identify any distinctive features about this	- competitive features	
	area that could provide a competitive advantage over	(rank, if possible)	
	rival Hubs (UK and international)? Can you rank these		
	in importance/significance?		
Stakeholders	1. Who should initiate and/or drive forward a B'th area	- list and rank	Handbook of Project Management

	CDIT Hub?		4th Edition, 2007 R.J. Turner (Editor)
	2. Once the initiative is proposed/commenced who		
	would have:		
	- an interest in the project? (strong vs weak on scale of 10)	- record scores, determine means +	Dorset LEP 2013
	- influence in the success of the project (" ")	map on the stakeholder diagram(s)	Manifesto
	- motivation in helping to make a CDIT Hub		
	successful? (" ")		
	- commitment in seeing the project come to		
	fruition? (" ")		
	- formal power to support or resist CDIT Hub		
	development? (" ")		
	- informal (" " " " " ")		
Competitive Differentiation	1. Can you think of any particular strengths that the	- list and rank	M.E.Porter 'Competitive Strategy'
	B'th region has that could contribute to the success of		
	the CDIT Hub?		
	2. Do you feel that the B'th area has unique resources		Dorset LEP 2011
	or capabilities that are attractive to business:		Prospectus
	a) generally?	- list and rank	
	b) to creative, digital & IT organisations?	- " "	
	3. Would any of the following be potentially strong		Fletcher, J.B'mth Uni Economic Impact Study 2013
	characteristics that could give a CDIT Hub a		
	competitive edge:		
	- Bournemouth University/Arts University?	- list and probe	
	- current CDIT capabilities, wherever these may be?		
	- international connections/international business?		
	- specialised industry needs (eg maritime, tourism,		
	language training, scientific instrumentation, geological		
	services, oil/energy, agriculture, engineering, banks and		
	financial services, media/film ...)?		

	4. Do you feel the area has the existing technical,	- semi-closed responses	
	creative & entrepreneurial talent to make a Hub		
	successful?		
	5. Do you feel the area could attract further like talent?	- " " "	
Resources Required	1. What resources would be needed to make a CDIT	- open discussion list	Dormaz, S 2012
	Hub work?		
	2. How important would the following be:	- list and obtain ranking	Sapsed & Nightingale 2013
	- central government funding?		Brighton Fuse
	- local authority funding?		
	- enterprise board support?		CBI Briefing 2011
	- EU funding/grants?		Skillset Report "
	- private venture capital?		UK Commission for Employment and Skills 2012
	- large corporation investment/support?		
	- entrepreneur investment via banks?		
	- entrepreneur own start-up capital?		
Hub Structure, Ownership &	1. Who would 'own' such a Hub?	} list (analyse against stakeholder	Various academic texts/papers/cases on
Organisation	2. How would ownership be legally arranged?	} groupings)	organisational design
	3. Would you favour an over-arching owner of key assets		
	(such as buildings, facilities, infrastructure) and see this		
	as 'the Hub' - perhaps owned by a combination of	- free discussion on ownership	
	investors? Then the facilities are rented out to CDIT	options	
	entrepreneurs with a cafeteria of service options?		
	4. Or should this be a more of a co-operative venture	- " " " "	
	with equality of ownership between entrepreneurs		
	and other stakeholders?		
	5. Or should there be a major corporate owner who	}	
	owns and manages the Hub more as an incubator?	}	
	6. Or should this be a community asset, owned and	}	
	managed by the LA?	} free discussion on management,	
	7. Should the management of a CDIT Hub follow a	} structure and organisation	
	traditional organisational bureaucracy or should this be	}	

	a flatter structure with devolved leadership and	}	
	empowerment at the lowest levels?	}	
	8. Should the Hub have any management structure	}	
	apart from, maybe, a Board to meet legal requirements?	}	
Location	1. Who should decide where the Hub is located?	- ideas generation	Bantje, M et al 2011
	2. What factors should influence Hub location?	- list + rank importance	Bayliss, D. 2007
	3. Should Hub location be determined more by market	(Tease out costs, transport/etc vs.	Carrillo, FJ 2005
	forces or more by stakeholder/owner's interests?	owner preferences)	Clare, K 2012
	4. Do you have any suggestions for CDIT Hub location?		Durmaz,,S.B 2012
	5. Should the Hub be contained in one building or a		Zheng, J. 2011
	variety of buildings?		
	6. If multiple sites, how would synergistic benefits of the		
	Hub be leveraged?		
Hub 'Culture'	1. If we take the loose definition of organisational		Various academic
	culture as: "the way we do things around here", could		writings/research
	you describe in your own words what a customer would		on organisational
	experience as he/she walks into the Hub?		culture and workplace culture
Measurement + Evaluation of the	Of the following methods to evaluate the Hub, how		
Hub Initiative	relevant are they and what level of importance do you		
	attach to them?		
	1. Hub Set-Up		Turner, RJ 2007
	a) Completion of project on time		
	b) " " " budget		
	c) " " to specification		
	d) " " " quality level		
	e) Establishment of a new business asset for the area		
	f) Making productive use of unoccupied sites/buildings		
	2. Medium-term measures		
	a) Return on investment for owner		Kaplan and Norton Scorecards

	- financially		
	- socially		
	b) No. of new enterprises		
	c) Revenue " "		
	d) Profitability " "		
	e) Sustainability "		
	f) No. of people employed		
	g) Customer satisfaction		
	h) No. of new products to market		
	i) Entrepreneur satisfaction (incl life-style)		
	j) Level of enhanced CDIT knowledge, capability and		
	experience as part of a wider pool of talent		
	3. Long-term measures		
	a) Economic multipliers (eg related business		Dorset LEP 2011
	development)		Prospectus
	b) Community return on investment		
	- financially		
	- socially		Dorset LEP
	c) Stakeholder satisfaction		Manifesto
	d) Contribution to local social and economic		Frontier Economics 2011
	development plan		Docherty, D 2010
	e) Contribution to overall public profile of Bournemouth		CBI Report 2013
	area as a business location		Hope and Livingston 2011

Appendix E: References

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Appendix F: About the Authors

This work has been undertaken by Steve Brewer, a project manager with many years' experience in the academic sector and David Rees, a management consultant with many years of experience working with business schools and international senior management teams.

Steve Brewer

Steve Brewer is an experienced leader and natural communicator with a track record of steering and presenting the implementation of innovative solutions in academic research and creative environments in the UK and other parts of Europe. Experienced in motivating and building multi-disciplinary, distributed teams in a variety of contexts, Steve is well-versed in developing and refining strategic direction in dynamic environments.

Steve Brewer is currently Network Coordinator of the RCUK-funded IT as a Utility Network+based at the University of Southampton. Duties include:

- Execution of the RCUK mission to support the Digital Economy;
- Coordination, communication and strategic growth of the Network+;
- Production of a monthly newsletter;
- Workshop planning and facilitation;
- Pilot project and secondment scheme: management of calls and execution;
- Digital and social media campaigns - http://www.itutility.ac.uk

Previous roles included European Grid Infrastructure, EGI.eu, Amsterdam (https://www.egi.eu) as Chief Community Officer /Community Outreach from 2010 to 2012 where duties included:

- Programme Committee Chair for the biannual EGI Forum meetings of approx. 500 attendees
- Community outreach activities: promotion and communication, speak at specialist meetings internationally.

Strategic development of outreach activities across European research communities and other projects

For the ENGAGE project at Open Middleware Infrastructure Institute UK (OMII-UK), University of Southampton, 2008 - 2010 (http://www.engage.ac.uk) project management roles included supporting the coordination of the JISC-funded initiative to support uptake of grid computing from diverse research areas.

Steve has a BA Hons (2:1) Computing and Information Systems from Brighton University in 2004 and an Advanced Diploma in Media Production (Film and TV Production) from the Arts University Bournemouth, 1989. Steve also has PRINCE2 and ITIL foundation professional qualifications.

All of the photographs in this report were taken by Steve.

In addition to work Steve also acts as chair to the 49th Bournemouth Scout Group and is on the organising committee of the Christchurch Music Centre youth band.

David Rees

David Rees is Visiting Executive Fellow and Programme Director at Henley Business School, specialising in cross-cultural management and transformational leadership. Previous academic roles have included Visiting Professorships at the Zagreb University School of Economics (Croatia) and the Marketing Institute in Helsinki (Finland), guest lectureships with Bocconi University (Italy) and Birmingham Business School (UK), and Associate Faculty at Warwick Business School (UK), Duke Corporate Education (UK/USA) and IHM Institute (Sweden).

Educated at Kingston, Middlesex and Brunel Universities, David holds an MSc in Management Studies, a Postgraduate Diploma in Social Economics and a teaching qualification. He is a Fellow of the Chartered Institute of Personnel and Development and a Member of the Chartered Institute of Management.

Following a career in the UK telecommunications industry focusing on performance improvement projects, David took up a lecturing position at Guildford College of Technology before returning to commercial business with educational travel, training and consulting enterprises. This led to his involvement with the international business school sector that included research, publishing, teaching, conference presenting and consulting. His particular interests are in the area of human capital quantification and cultural modelling.

International experience embraces four years of business development in the United States and extended work assignments in Belgium, Portugal, Germany and the Nordic region. Professional work has also been undertaken in Africa, the Middle East, the former USSR and Asia-Pacific.

Engagements have involved various industrial sectors including energy and power generation, aviation and airlines, heavy engineering, water, mining and minerals, telecoms, IT, automobiles and trucks, electronics and white goods, pharmaceuticals, banking, insurance and financial services, media and publishing, retailing, hospitality, logistics and construction.

In addition to his business activities David has recently sat on the boards of charities, school governing bodies and non-profit sports organisations.

Appendix G: Glossary of Terms & Abbreviations

- Brighton Fuse project

  The Brighton Fuse project arose from the Fuse report extolling the urgency of promoting the creative, digital and information technology (CDIT) industries. The two-year project was launched in 2011 and the final report published in October 2013. The key conclusion of the report was the emergence of a new category of high growth businesses fusing technology with arts skills across the digital economy. Specifically, the report identified the new concept of a 'superfused' business combining creative, digital and business skills to achieve three-fold competitive advantage.
  http://www.brightonfuse.com/wp-content/uploads/2012/01/CIHE-1009TheFuse.pdf - original report

- Creative, digital and IT (CDIT)

  The term creative, digital and information technology (CDIT) groups together a number of sectors that cut across traditional creative and technical boundaries. As such the term is certainly fuzzy in its definition. The term CDIT was coined to act as a counter balance to science, technology, engineering and mathematics (STEM). Thus, the two terms are not mutually exclusive but useful handles on which to frame arguments and discussions. CDIT was used in the investigation led by Rona Fairhead, Chair and CEO of the Financial Times Group and Christopher Snowden, Vice Chancellor and CEO of the University of Surrey that was established by the Council for Industry and Higher Education (CIHE) that culminated in the Fuse report (8 September, 2010). The CDIT term is by no means widely used, creative digital and digital creative being more common in most contexts. However, this may change as the economic benefits of the super-fused CDIT model become more widely understood.

- Digital Economy – RCUK

  The Digital Economy refers to a major funding theme run by the Research Councils UK to support research exploring the transformational impact of digital technologies on aspects of community life, cultural experiences, future society, and the economy. The digital economy, however this may be defined is both important in terms of its impact and growth, and

interesting in terms of the ambiguity in terms of its size. A National Institute of Economic and Social Research in 2013 estimated the digital economy in the UK as being at least twice the size of the government's estimates, perhaps as much as four times the size. The reasons for the differences are not just the variety of definitions for skill sets in this area, but deeper knowledge gaps in our broader understanding of the digital economy.

- *Manifesto for our Creative and Digital Economy* (Dorset LEP Report, 2013)

  The Dorset Local Enterprise Partnership contributed to this agenda-setting manifesto that brought together many key agencies and organisations in the Bournemouth area. This in turn was inspired by the NESTA report 'A Manifesto for the Creative Economy'. This document highlighted the impact and opportunities arising from the coming together of digital technologies and creative industries. One of the reports co-authors was Juan Mateos-Garcia of Brighton University who also contributed to the Brighton Fuse study.

- Silicon Beach – explain term and context

  Silicon Beach in the context of this report refers to an annual event held in Bournemouth in September. The two-day event organised by Mat Desmier brings together around twenty key figures from the world of the creative economy. However the term 'silicon beach' pops up in many other coastal conurbations. In Brighton there is a very successful IT-related training company and in Los Angeles the term refers to a 3-mile coastal strip in the Santa Monica area that hosts many internet-technology start-up companies.

Abbreviations:

- BID – Business Improvement District
- CBI – Confederation for British Industry
- CBRE – the world's largest commercial real estate services firm.
- CDE – Centre for Digital Entertainment that links Bournemouth & Bath Universities
- CfE – Centre for Entrepreneurship (Bournemouth University)
- CGI – Computer Generated Imagery
- CIHE – Council for Industry and Higher Education
- eP – Enterprise Pavilion (based at the Arts University Bournemouth)
- ESRC – Economic and Social Research Council

- ITaaU N+ – Information Technology as a Utility Network+
- LEP – Local Enterprise Partnership
- NCCA – National Centre for Computer Animation (Bournemouth University and the Arts University Bournemouth)
- NCUB – National Centre for Universities and Business
- NESTA – National Endowment for Science Technology and the Arts
- OeRC – Oxford eResearch Centre
- PHP – PHP Hypertext Preprocessor
- RCUK – Research Councils United Kingdom
- SDN – Software-defined networking
- UKTI – United Kingdom Trade And Industry
- SBBA – Silicon Beach Business Angels
- SFX – Special Effects
- TSB – Technology Strategy Board
- VFX – Visual special effects

Appendix H: List of Figures and Tables

Figures

Tables

Appendix I: Acknowledgments

Many individuals and people representing organisations offered valuable information, data and insights that our research has embraced, and the authors gratefully acknowledge all those contributions.

Some discussions were formally recorded and documented whilst others were more informal. Both types of participation were of great help to the researchers and we particularly welcomed opportunities to engage with personal views and thinking around the topic area.

It is clear that our field of research reflects an industrial and business sector that is of immense and immediate global significance and the future for CDIT enterprises is very bright indeed. Thus, thank-you to all of you who gave us your time, knowledge and understanding.

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Steve Brewer and David Rees December 2013

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