

#### Reaching out from the creative silo:

#### the arts, creativity and innovation

Policy has successfully championed the arts and creative industries. They now represent an important sector on which the UK will place increasing weight. However, basic questions that have been answered for other sectors remain unresolved for the creative industries. Despite significant efforts to date, this continues to present a challenge for evidence-based policymaking.

As a mature sector, the creative industries must face up to the challenges of their low productivity growth and of ensuring that the benefits they produce reach out across the UK's economy and society. They need to understand how new artistic ideas influence wider creative contributions – and grasp the opportunities presented by technological change and global markets.

Research needs to treat the arts and creative industries with the same degree of rigour as more traditional sectors. By applying existing models that are known to work in other sectors of the economy, policymakers can develop a richer set of policy prescriptions than public funding alone. Future innovation policy should focus on supporting businesses to identify and adopt powerful new technologies, helping them think through the related IP implications and supporting the development of the collaborative networks that are fundamental to innovation.

## Designation of the 'creative industries' has been critical to their development

The UK has led the world in developing the concept of the 'creative industries' as a focus for policy. This was first formalised by the Department of Culture, Media and Sport's (DCMS) Creative Industries Taskforce and published in the Creative Industries Mapping Documents in 1998 and 2001. There followed rapid growth in regional initiatives to support development of the creative industries.

The Cox Review reported on how best to raise business productivity by drawing on design skills and resources.<sup>2</sup> More recently, the DCMS launched the Creative Economy Programme to further highlight the value of the creative industries to the UK economy and to identify the main challenges and opportunities facing the sector.

The DCMS identifies the creative industries as 'those activities which have their origin in individual creativity, skill and talent and which have the potential for wealth and job creation through the generation and exploitation of intellectual property.' They include traditional art forms, such as painting, sculpture, crafts and the performing arts – which inspire innovation 'downstream' in other creative sectors – but also television, film and video.<sup>3</sup>

#### But the traditional definition is both too broad and too narrow

The creative industries include software and computer service businesses, which make contributions that are knowledge-based but qualitatively different from many other creative firms. But they exclude museums, galleries and libraries, which can also be sources of fresh ideas and creativity. This is especially so as many begin to utilise new exhibition channels and formats. The British Film Institute has, for instance, recently announced a partnership with Hewlett-Packard to use digital

- 1. DCMS (1998, 2001), 'Creative Industries Mapping Document', London
- 2. HM Treasury (2005), 'The Coor Review of Creativity in Business: Building on the UK's strengths', London
- 3. DCMS's full definition of the creative industries includes 13 sectors in all: advertising, architecture, the art and antiques market, crafts, design, designer fashion, film and video, interactive leisure software ('video games'), music, the performing arts, publishing, software and computer services, television and radio. These sectors accounted for 7.3 per cent of gross value added (GVA) in 2004.
- 4. Holden and Jones (2006), 'Knowledge and Inspiration: the democratic face of culture', Demos and MLA, London.

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technologies to broaden public access to material in its National Archive.<sup>5</sup>

#### The 'creative industries' account for only 56 per cent of the UK's creative workforce

The standard grouping of creative industries excludes creative activities in the wider economy. As well as the one million or so people employed in the UK's creative industries, a further 0.8 million are employed in creative jobs outside the traditionally-defined creative industries <sup>6</sup>

## The 'productivity puzzle': highly innovative but limited productivity growth

#### The arts and creative industries are innovative

The DTI's 2005 Community Innovation Survey sampled around two-thirds of sectors that make up the creative industries. Around 70 per cent of creative businesses had been involved with some form of innovation activity, compared with around 55 per cent of businesses in other industries.<sup>7</sup>

But survey-based measures of innovation need to be interpreted with care. Defining what is and is not an innovation is more difficult in artistic than in other forms of innovation where a 'knowledge frontier' is more clearly visible.<sup>8</sup>

#### But productivity growth is counterintuitively weak

Higher innovation in the creative industries should spur faster productivity growth.

Accurate estimates of productivity in the UK's creative industries are difficult to find, largely because of problems with measurement. But the data that do exist suggest that labour productivity growth in the creative industries between 2000 and 2004 was somewhat lower than in the service sector.<sup>9</sup>

Performance also varies widely across sectors. In London between 1995 and 2000, a number of creative sectors (such as architecture and video, film and photography) enjoyed the highest productivity growth rates of all business sectors, while others including fashion were among the weakest.<sup>10</sup>

### Technological progress creates opportunities and threats

#### New content and new distribution channels for existing content

Technological progress gives artists and creative businesses opportunities to produce new content. The enormous growth in Massively-Multiplayer Online Role-Playing Games (MMORPGs), such as *World of Warcraft* or *Second Life*, has been facilitated by rapid improvements in 3D games engine technologies and a sharp rise in the number of households worldwide with broadband internet access.

Digital technologies also create opportunities for small- and medium-sized content producers in industries such as music, video games and film to bypass distribution channels that have traditionally been dominated by media conglomerates and find new routes to new markets. For example, earlier this year, Merlin, a new agency representing the independent music sector – which accounts for almost one-third of the global music market – signed a deal that will enable its music to be sold from websites such as MySpace.

### Blurring the boundaries between producer and consumer and elevating the role of demand

Eric Von Hippel coined the term 'lead user' and has written extensively about the 'democratisation' of innovation – users of products and services innovating for themselves rather than being led by manufacturers or suppliers. This form of collaboration between producers and users is economically valuable because the latter naturally have a clearer idea of what innovations they find most valuable.

This trend has especially profound implications for some creative sectors. For instance, the digital revolution and Web 2.0 technologies may shift the boundaries between producer and consumer to the extent that artistic products are in effect being 'co-produced'. John Knell gives the example of the Watershed Media Centre in Bristol. Watershed received over 1.4 million visits to its website in 2005, over three times the 400,000 visitors who came through its doors. A good many of these online visitors made use of Watershed's dShed platform for artistic content, and played an

- 5. http://www.bfi.org. uk/about/news/2007-02-23hp.html
- 6. DCMS (2006), 'Creative Industries Economic Estimates Statistical Bulletin September 2006', London. The figure for creative employment relates to Creat Britain only; that is, it does not include Northern Ireland.
- 7. DTI (2006), 'Innovation in the UK: Indicators and Insights', DTI Occasional Paper No. 6, London.
- 8. Castaner and Campos (2002), 'The determinants of artistic innovation: bringing in the role of organisations', Journal of Cultural Economics. No 26.
- 9. DCMS (2006), 'Autumn Performance Report', London. The GVA and employment data are taken from the ONS's Annual Business Inquiry. The Inter-Departmental Business Register on which the latter is based does not include businesses whose turnover is below the VAT threshold and who are not registered for VAT. This means that coverage of businesses in some creative sectors is likely to be low. Also, the productivity estimates are the total number of employees, not full-time equivalents, so differences in the part-time/full-time split between creative businesses and other businesses may induce biases in the comparison.
- 10. GLA (2002), 'Creative London's Core Business' GLA Economics October 2002, London. The GLA's estimates of productivity in this report are calculated on a different basis from those produced by DCMS for the UK creative industries as a whole.
- 11. Von Hippel (2005), 'Democratizing Innovation', The MIT Press, Cambridge, Massachusetts, USA.
- 12. Knell (2006), 'Whose art is it anyway?', the Intelligence Agency. http://www.artscouncil.org.uk/documents/news/phpwScdKl.doc

active role in the development process for new projects.

Artistic co-production often uses open-source collaboration principles. For example, a number of full open-source feature length films – such as *God's Companion* and *Boy Who Never Slept* – have already been released with Creative Commons licenses, with free-to-access tools that allow viewers to edit the plot.

#### Servicing 'the long tail': offering existing products to new markets

Digital distribution channels allow producers to satisfy demand for an 'infinite variety' of creative goods and services, which means that products occupying niche markets (the 'long tail') can collectively rival best-selling products. Chris Anderson cites research which finds that a large proportion of Amazon's book sales come from less popular books that are not available in traditional bookshops.

# Policy should help creative businesses identify opportunities from new technologies and manage their implications for IP

The potential for new technologies to impact on the arts and creative industries is huge. However, due to the rapidity of change and the small size of many creative businesses, many are at risk of not identifying, understanding and using new and disruptive technologies. Without trying to make decisions on their behalf, policy needs to focus on helping businesses to become aware of new digital distribution channels, and support efforts to coordinate adoption at the industry level. <sup>16</sup>

As technology helps data and ideas to be disseminated ever more widely, the challenges of strategically managing intellectual property also multiply; creative businesses could benefit significantly from greater support in this area.<sup>17</sup>

The Arts Councils should also step up their support for co-produced activities across the arts sectors. Boosting IT capabilities in the arts sector in particular is central to this.<sup>18</sup>

### Many creative businesses lack necessary management skills

As the arts and creative industries confront these challenges and seek to capitalise on the opportunities that they present, many lack the strategic skills necessary for high and sustained growth. 19 In nearly 90 per cent of creative businesses, for example, fewer than one-half of all senior managers have received any training in business strategy. Only 35 per cent of creative businesses have specific financial goals for the future, and less than two-thirds of those that do include these goals in a formal business plan. 20

### Shortage of strategic business skills goes some way to explaining the 'productivity puzzle'

This deficit in business planning is one reason why strong innovation is failing to lead to greater business expansion and higher productivity growth. Size distribution data of a sample of creative businesses show a bunching of firms with annual turnover in the £300,000–£400,000 range.<sup>21</sup> This is circumstantial, though not conclusive, evidence that small creative businesses are facing barriers to growth.

Deficiencies in management skills also help explain why many creative businesses struggle to tap sources of finance that would otherwise be available.<sup>22</sup>

#### Public arts organisations face management challenges too

As in the private sector, new business models are needed in which training in leadership and management is seen as a top priority for public arts organisations. Charles Leadbeater advocates 'open leadership' models where strong entrepreneurial leadership is combined with devolved decision-making.<sup>23</sup>

### Creativity is a core skill for the innovation economy and creates economic value for businesses

Creativity – the generation of new ideas or new ways of thinking – is increasingly important in all walks of life. The arts and creative industries

- 13. Caves (2002), 'Creative Industries: Contracts between art and commerce', Harvard University Press, Cambridge, Massachusetts, USA.
- 14. Anderson (2006), 'The Long Tail: How endless choice is creating unlimited demand', Random House Business Books,
- 15. Brynjolfsson, Hu and Smith (2003), 'Consumer surplus in the digital economy: estimating the value of increased product variety at online booksellers', Management Science, November 2003.
- 16. See, for example, the UK Film Council's Digital Screen Network: http://www.ukfilmcouncil. org.uk/cinemagoing/ distributionandexhibition/dsn/
- 17. NESTA (2006a), 'Intellectual property rights: A response to the Gowers Review', NESTA Policy Briefing http://www.nesta.org.uk/assets/pdf/intellectual\_property\_rights\_policy\_briefing\_NESTA.pdf
  18. Knell (2006) op cit.
- 19. NESTA (2006b), Creating Growth: How the UK can develop world-class creative businesses. http://www.nesta. org.uk/informing/policy\_and\_ research/highlights/creative\_ industries\_report.aspx
- 20. NESTA/ICM (2006c), Creative Businesses Survey. http://www.nesta.org.uk/ assets/pdf/creative\_businesses\_ tables.pdf
- 21. Clayton and Mason (2006), The financing of UK creative industries SMEs', Burns Owen Partnership Limited and Pembridge Partners, Report for the Access to Finance/Business Support Working Group of the Creative Economy Programme July 2006.
- 22. NESTA (2006b) op cit. This is also a major theme to emerge from the Access to Finance/
  Business Support Working Group of the DCMS Creative Economy Programme.
- 23. Leadbeater (2005), 'Arts organisations in the 21st century: Ten Challenges' Arts Council England, London.

and individual role models within them play an important role in championing this creativity.<sup>24</sup>

#### Creativity generates business value and promotes innovation

As well as creating more valuable products and therefore greater revenue, creativity and design skills can reduce production costs by helping businesses to develop more efficient processes. A highly creative approach may also pay handsome dividends for businesses' marketing and branding efforts.<sup>25</sup>

Firms which spend more on design certainly appear to introduce more product innovations and enjoy faster productivity growth.<sup>26</sup> More broadly, business creativity has a significant relationship with overall company performance.<sup>27</sup>

#### High creativity makes for a more competitive UK economy

For the UK, creativity is a critical skill which will allow it to compete in a globalising world. We cannot hope to outflank China and India, say, on cost base grounds, but we can leverage our creative skills to develop new products and find new ways of doing business.<sup>28</sup>

## Innovation in the arts and creative industries closely parallels the creative process in other sectors

#### Individual artists and innovators have much in common

The careers of artists and innovators share many similarities. Individual artistic and innovative breakthroughs tend to be infrequent and very significant for the individual – they are 'lumpy'. The chances of 'failure' are high but the rewards from success are often great. As a result, creative people in both groups face significant income and employment volatility, and periods of unemployment and flexible working patterns are common.

Both groups also commonly claim to be motivated by non-economic factors. They face similar challenges in convincing others – including financiers – of the merits of their ideas. Intellectual property and copyright are important mechanisms for ensuring that both

reap some of the rewards from the ideas that work.

### Co-operation and collaboration are critical to innovation in the arts and creative industries

Artistic processes closely parallel new understandings of innovation. Howard Becker argues that 'the dominant tradition, which focuses on the individual artist and his/her work, fails to see the creation of art as a network of co-operation among many.'<sup>29</sup> Knowledge sharing among professionals has been demonstrated to be central to work practices in Hollywood's film industry, for example.<sup>30</sup>

This emphasis on co-operation mirrors innovation in other sectors, which relies upon collaboration and iteration, in contrast to the traditional 'pipeline view' where innovations result from the R&D efforts of researchers working in a laboratory setting.<sup>31</sup>

#### Networks are rightly a focus, but better understanding is needed of the public sector's correct role in leading them

Networks are important to sharing experience and ideas within the creative industries, and more widely with other sectors and with policymakers. But there are well-known coordination failures in establishing such networks – someone must take the initiative to set up the network, but the benefits of their efforts are enjoyed by all. This may be a particular problem for the very large numbers of small creative businesses.

The benefits of networking to creative businesses extend beyond collaboration between the firms themselves; they involve knowledge sharing between universities, public arts organisations and businesses too. NESTA welcomes the Technology Strategy Board's proposal to establish a Knowledge Transfer Network (KTN) for the creative industries, and the Arts & Humanities Research Council's Knowledge Transfer Plan. But the design of the KTN should be deeply informed by the experience of existing networks, and in particular should consider how direct a role the public sector should play in leading the network.

- 24. Leadbeater (2004), 'Britain's creativity challenge', Creative and Cultural Skills, London.
- 25. DTI (2005), 'Creativity, Design and Business Performance', DTI Economics Paper No. 15, London.
- 26. Haskel, Cereda, Crespi and Criscuolo (2005), 'Creativity and design study for DTI using the Community Innovation Survey', Queen Mary/University of London/AIM/University of Sussex/OECD
- 27. The Work Foundation (2005), 'Cracking the performance code: how firms succeed'. http://www.theisociety.net/Assets/PDFs/Crack\_code.pdf
- 28. Will Hutton (2007), 'The Writing on the Wall: Why We Must Embrace China as a Partner or Face It as an Enemy', Little, Brown, London.
- 29. Becker (1982), 'Art Worlds', Berkeley and Los Angeles: University of California Press, Berkeley, USA.
- 30. Storper (1989), 'The transition to flexible specialisation in the US film industry: external economies, the division of labour and the crossing of industrial divides', Cambridge Journal of Economics, No 13.
- 31. NESTA (2006c), 'The innovation gap: why policy needs to reflect the reality of innovation in the UK'. http://www.nesta.org.uk/assets/pdf/innovation\_gap\_report.pdf

### The benefits from artistic and creative skills typically 'spill over' into other sectors

#### Large numbers of trained artists work outside the creative industries

After six months, only around one-third of art and design graduates in the UK had secured work in sectors directly related to their degrees, compared with over 40 per cent of IT students and two-thirds of those who had studied civil engineering.<sup>32</sup>

Second-jobbing between sectors appears to be far more prevalent in the arts than in non-arts sectors: around 7.4 per cent of those working in the arts compared with 4.5 per cent of non-arts workers. Interestingly, a much greater share of artists' second jobs are high-skilled.<sup>33</sup> Together, these findings suggest that there is strong tendency for individuals with artistic and creative skills to bring their talents to bear in other areas of the workforce.

#### The arts play an important role in interdisciplinary innovation

Interdisciplinary innovation involves the breaking of established boundaries between different fields of expertise. Biomimetic applications in architecture, for example, draw from nature and are used in building design – e.g. Plantation Place in the City of London, where the air filtration system works as a human lung, or the Eden Project in Cornwall, whose copper-clad roof is based on geometric patterns found in many plant seeds.

#### 55 per cent of creative products are intermediate inputs to other industries

The arts and creative industries do not work in isolation; they have extensive relations with the world around them.<sup>34</sup> ONS data, for example, show that around 55 per cent of creative products supplied to the UK economy are purchased by other UK businesses.<sup>35</sup> Within the creative industries, the advertising, architecture and software sectors sell the vast majority of their outputs to other businesses.

#### Creative businesses may attract firms in other sectors

Creative businesses and a well-developed arts sector may make regions more attractive locations for firms to do business. Richard Florida finds that the incidence of 'bohemians',

which he defines as artists and designers, is significantly correlated with high-tech success across metropolitan regions in the US (although correlation does not necessarily mean causation).<sup>36</sup>

Intuitively, one may expect that the presence of a large, diverse pool of artistic talent in a region would create a 'lead market' for artistic and creative products. When functioning properly, this should enable local businesses to design their products better and market their products more successfully, better preparing them for a wider marketplace later on.<sup>37 38</sup>

### Physical proximity can encourage spillovers

As in other sectors, <sup>39</sup> creative businesses tend to cluster together to exploit the advantages of concentrated labour pools, networks and 'lead markets.' For example, around 40 per cent of creative industry workers are based in London. <sup>40</sup> But notably that concentration is centred around West London. <sup>41</sup> The DTI has further demonstrated the importance of creative clustering in many other regions of the UK. <sup>42</sup>

Creative clusters typically involve a broader range of partners than in the standard vision of a business park situated next to a science-and technology-producing university campus. They include non-profit organisations, cultural institutions and individual artists as well as creative businesses and higher education institutions. They tend to be more attractive places to live as well as to work, and places where creative goods and services are consumed as well as produced.<sup>43</sup>

#### Developing the arts can play an important role in regional development

Urban planning strives to balance multiple economic, cultural, social, environmental and other objectives, while developing and maintaining a sense of distinct local identity.<sup>44</sup> The mixed success of different regeneration models demonstrates that this is a difficult balance to strike, but the potential prize is nonetheless great.<sup>45</sup> Correctly linking the arts and creative industries into local innovation strategies may significantly help this process.

- 32. HECSU (2006), 'What do graduates do?' (Data for longer term career destinations of artists are difficult to find). http://www.prospects.ac.uk/downloads/documents/HECSU/Reports/WDGD.pdf
- 33. Davies and Lindley (2003), 'Artists in figures: a statistical portrait of cultural occupations', Arts Council England, London.
- 34. Becker (1982) op cit.
- 35. DTI (2005) op cit. 'Creativity, design and business performance', DTI economics paper No.15, London.
- 36. Florida (2002), 'The Rise of the Creative Class', Basic Books, New York, USA.
- 37. Georghiou (2007),
  'Demanding Innovation. Lead
  market, public procurement and
  innovation', NESTA Provocation
  02. http://www.nesta.org.
  uk/assets/pdf/luke\_georghiou\_
  provocation.pdf
- 38. Markusen and King (2003), 'The artistic dividend: the arts' hidden contributions to regional development', Project on Regional and Industrial Economics, University of Minnesota LISA
- 39. Saxenian (1994), 'Regional Advantage: Culture and Competition in Silicon Valley and Route 128', Harvard University Press, Cambridge, Massachusetts. USA.
- 40. GLA (2004), 'London's creative sector: 2004 update', GLA Economics.
- 41. GLA (2005) 'Creative data for London', London's Economy Today 39, GLA Economics.
- 42. DTI (2001), 'Business clusters in the UK: A first assessment', DTI, London.
- 43. www.creativeclusters.com; and London Development Agency (2006), 'Creative spaces: strategies for creative cities'. http://www.creativelondon.org. uk/upload/pdf/421476\_LDA\_Summary\_AW.pdf
- 44. Throsby (2001), 'Economics and Culture', Cambridge University Press, Cambridge, UK.
- 45. See Paddison and Miles (2006), 'Culture-led Urban Regeneration', Routledge, London for a rec ent review of the different models.

There are at least three separate channels by which the creative industries can improve the well-being of regions: first, they directly generate value added for the local economy; second, their presence may make a city a more attractive location for non-creative businesses; and, third, they may instil and reinforce a sense of community identity and vitality.<sup>46</sup>

#### Much policy has therefore focused on stimulating creative clusters

Clusters may evolve naturally, or they may deliberately be encouraged by public policy.

In Glasgow, public sector investment to create the Digital Media Centre has transformed what was previously one of the city's most deprived areas into a desirable location for high-tech and creative businesses. This has had a knock-on effect on adjacent land, which has become the operating base for a range of private firms and public sector agencies (including BBC Scotland).

The Creative and Digital Cluster in Leeds offers an interesting contrast as, due to its relative affluence, Leeds has not been as significant a beneficiary of public development funds as many other cities. A wide group of stakeholders – the City Council, Regional Development Agency, private businesses, education institutions and community groups – has worked together to promote a varied range of creative activities.

### There is limited evidence of the effectiveness of different approaches

However, although considerable evidence exists for the importance of policy intervention in the facilitating of clusters, the evidence for the efficacy of direct policy interventions is more limited.<sup>47</sup>

The current plethora of creative cluster strategies may need reconsideration. Rather than a single template, the UK's regions need innovation strategies that are tailored to their comparative strengths and weaknesses; and policymakers need to be careful that competition between them does not come at the expense of UK-wide priorities.<sup>48</sup>

# NESTA is building a series of programmes to strengthen the UK's understanding of the links between the arts and innovation

NESTA is the National Endowment for Science, Technology and the Arts. With endowed funds of over £300 million, our mission is to transform the UK's capacity for innovation. We do this in three main ways: by working to build a more pervasive culture of innovation in this country; by providing innovators with access to early-stage capital; and by driving forward research into innovation, with a view to influencing policy.

The Arts & Innovation: NESTA's Policy & Research Unit is building an ambitious programme of research to identify and explore questions linking the arts and creative industries to innovation in the UK's wider economy and society. We believe there are greater similarities between the creative industries and broader innovation processes than is usually recognised. This, for example, leaves much scope for research using methodologies that are standard in the innovation literature, particularly quantitative techniques. www.nesta.org.uk/npru

**Creative Pioneers Programme: NESTA's** combination of research and practical interventions positions us to design and test new models of support where they are needed most. Our Creative Pioneers Programme focuses on maximising the commercial potential of creative talent. Over the last four years we have created a range of tools and resources for creative start-ups. From 2007, we will explore the challenges impeding sustained growth amongst the UK's creative SMEs. Building leadership, management and strategic planning capacity within the sector for example, encouraging the strategic exploitation of IP and new technology, bolstering the supply of investment-ready creative businesses and facilitating links to sources of finance. www.nesta.org.uk/pioneers

**NESTA Connect:** NESTA Connect explores the innovative potential of collaboration that disrupts boundaries between disciplines. It focuses on new approaches to facilitating and structuring interdisciplinary work across science, technology and the arts. **www.nesta.org.uk/connect** 

46. Throsby (2001) op cit.
47. Saxenian (2006), 'The
New Argonauts', Harvard
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48. NESTA (2007), 'Innovation
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Briefing. http://www.nesta.

org.uk/informing/policy\_and\_research/policy\_briefings/index.