ABSORPTIVE CAPACITY

BOOSTING PRODUCTIVITY IN THE CREATIVE INDUSTRIES

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Sponsored by

Phil Maggs

phil.maggs@frontier-economics.com

Ian Hathaway

ian.hathaway@frontier-economics.com

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FOREWORD

In April 2015, Charlie Mayfield set up the Productivity Leadership Group, a cross-business group of senior leaders charged by government with finding practical ways to increase the productivity of British business. The prize is a significant one – if businesses that are less productive were able to increase their productivity using the appropriate benchmarks for their sector that could be worth £130 billion per year in additional gross value added. The approach of the group has been practical and collaborative, with each sector able to look at what would work best within their industries but also offer solutions that could apply across British business as a whole. This report, which was commissioned to contribute to the thinking of the Productivity Leadership Group, identifies opportunities to improve productivity across the Creative Industries which could also apply to small and medium-sized businesses in any sector, as well as being relevant to any business depending on creativity at some level to succeed.

The solutions suggested in this report do not require any additional funding or bureaucracy and could be taken forward by existing industry bodies such as Creative Skillset and the Creative Industries Council. I am grateful to colleagues across the Creative Industries for their insightful and constructive contributions and to Frontier Economics for bringing their disciplined, evidence-driven approach to summarising the issues and identifying absorptive capacity as a key enabler of productivity growth for the Creative Industries.

The report rightly acknowledges the global success and reputation of British creativity and creative businesses and considers how four steps – promoting a commercial mindset, addressing the falling half-life of skills, demonstrating to investors and policy-makers the value of outputs that are intangible and unique, and promoting a diversity of talent – could benefit all creative business but especially micro and small businesses in our sector which could match the success of the best of our global businesses.

David Abraham

EXECUTIVE SUMMARY

The UK has a world-class reputation for creative output and creative people. In every sector of the Creative Industries we have businesses and people that excel internationally in terms of recognition for creative ability and commercial success.

The facts

The Creative Industries have seen output grow faster than the UK economy as a whole in recent years[1]. They generate £84 billion of gross value added (GVA) and employ 1.8 million people. And when you consider the wider "Creative Economy" of creative activities in other industries, then a further £49 billion of GVA and 1.1 million jobs are accounted for – with the combined total representing more than 8% of total UK GVA.

29% v. 12%

Creative Industries growth in gross value added 2011–2014 v. UK whole economy.

The Creative Industries are highly engaged in innovation, with most sectors being at or above the UK average for product and process innovations and R&D activity. They are highly skilled, with 61% of staff in managerial and professional roles (versus 36% for the economy as a whole), and highly qualified: more than 65% of employees hold Level 4 qualifications or higher (versus 40% for the economy as a whole).

So the Creative Industries are thriving. But look within the sectors and there is a lot of variation between individual businesses. And, critically, the Creative Industries are characterised by a long tail of small micro-businesses: 90% of creative businesses have no more than five employees, 80% have no more than two, and 60% have just one. The comparative figures for the whole UK economy are, respectively, ten, five and two.

Many of these businesses perform well, given their size. Comparing output/employee by firm size, the Creative Industries perform better than the rest of the economy at every level. But productivity in the Creative Industries typically increases with firm size (as it often does elsewhere). And so the skew towards micro-businesses and small and medium-sized enterprises (SMEs) brings down the average labour productivity of the Creative Industries.

The challenge

So the challenge is to understand what the barriers are in the Creative Industries that prevent micro-businesses from growing into small ones, small businesses becoming medium-sized ones, and medium-sized ones becoming large.

Innovation and ideas are the lifeblood of the Creative Industries and we know that we have a lot of creative talent in the UK. We also know that digitisation has

[1] DCMS, *Creative Industries Economic Estimates*, January 2016.

had disruptive and transformative effects across these industries. This is creating a myriad of growth opportunities but also shifting the landscape in terms of the business models, skills and working practices needed to succeed.

The ability of creative businesses to take new ideas and turn them into commercial success lies at the heart of business growth. But this capability – termed ***absorptive capacity*** in the academic literature – may be challenged by the structure and nature of the Creative Industries.

WHAT IS ABSORPTIVE CAPACITY?

Absorptive capacity is the ability of a firm to identify and acquire relevant external knowledge, assimilate it, transform existing knowledge and practices, and exploit these new capabilities for commercial ends. A firm's absorptive capacity has been strongly linked with achieving competitive advantage in dynamic environments through product and process innovations, performance efficiency, and strategic flexibility and adaptability.

The question then is:

> ***How can we boost the absorptive capacity of micro-businesses and SMEs in the Creative Industries to help more of them grow?***

What we've done

As part of a cross-industry project to look at productivity across the economy as a whole, Frontier has worked with David Abraham, Channel 4 and a group of Creative Industry leaders to understand more about the challenges to productivity in the Creative Industries.

Building on the statistical evidence and academic literature we conducted interviews with a group of Creative Industry leaders who were selected for their experience across companies, sectors and markets, and who had worked with different types of people and organisations at different stages in their development. The aim was to identify not just what works, but what might be missing from the UK and how we compare to the best in the world.

What we found

Our findings can be grouped into four themes. For each we have identified opportunities to address the challenges at a grass-roots level.

1. "We need to promote a commercial mindset"

Creative success – in terms of distinctive, mould-breaking outputs – is sometimes prized above basic commercial success in the UK. The roots of this may lie in our culture and our education system. Similarly, relative to other countries (and the US in particular) we tend to produce creative people who do not always have the fusion of creative, technical and commercial skills needed to successfully commercialise ideas. And we are less culturally willing to accept failure as a step to success. As well as changing mindsets, helping micro-businesses know when

and how to bring in expert advice and external support can help create a more rounded perspective.

Opportunities:

- Role models and awards that celebrate commercial success alongside creative brilliance.
- Developing and promoting fusion skills.
- New platforms and forums for sharing best practice.
- Mentoring for start-up businesses and early-career workers.
- Accelerator programmes.

2. "The half-life of skills is falling"

Digitisation and mobilisation have disrupted and transformed the Creative Industries. While many businesses have been quick to adapt and adopt, there is a large workforce of people whose skills are now becoming outdated faster than ever before. For those in large businesses or employed at the cutting edge, learning on the job may be enough to keep up. But the prevalence of contractors and other micro-businesses means that there are many who can find it hard to invest in keeping their skills up to date. And for those coming into the industries, not only do they need apprenticeships and qualifications to provide them with cutting edge skills, they also need the ability to refresh them in the future.

Opportunities:

- Lifetime learning and skills "passports".
- Modular, flexible training that adapts to the industries.
- Training that is recognisable and accessible for full-time workers.

3. "Outputs are intangible and inherently unique"

Many creative outputs are inherently intangible and unique. This is true in both "content" businesses like film, gaming and TV and also for "soft" innovations like product aesthetics and user experience. Attracting investment in such innovations requires a business to both connect with skilled investors and communicate effectively with them. While a number of industry bodies and public-sector initiatives exist to support this, finding a way through them and having the time to do so can be challenging for micro-businesses. And the challenges of explaining radical new concepts and business models to investors can be mirrored by the difficulties of engaging with policy-makers.

Opportunities:

- Bringing creative businesses together with expert investors.
- Ensuring advice and support to small businesses are easily accessible.
- Ongoing dialogue with policy-makers.

4. "Innovation thrives on a diversity of talents"

Bringing together people with different perspectives, backgrounds and approaches promotes creativity. A combination of different skills and professions is needed to develop and commercialise new ideas. But digitisation has radically

shifted the mix of skills and professions that are needed in the Creative Industries. Meanwhile, historic gender and demographic imbalances are still being addressed. The existence of geographic clusters and the single-industry focus of many trade bodies and forums means there is further scope for cross-industry collaboration.

Opportunities:

- Targeting graduates with science, technology, engineering and maths (STEM) skills, and promoting skills in STEM + Arts (STEAM).
- Creating cross-industry groups and projects.
- Industry initiatives and objectives for gender and black, Asian and minority ethnic (BAME) balance.

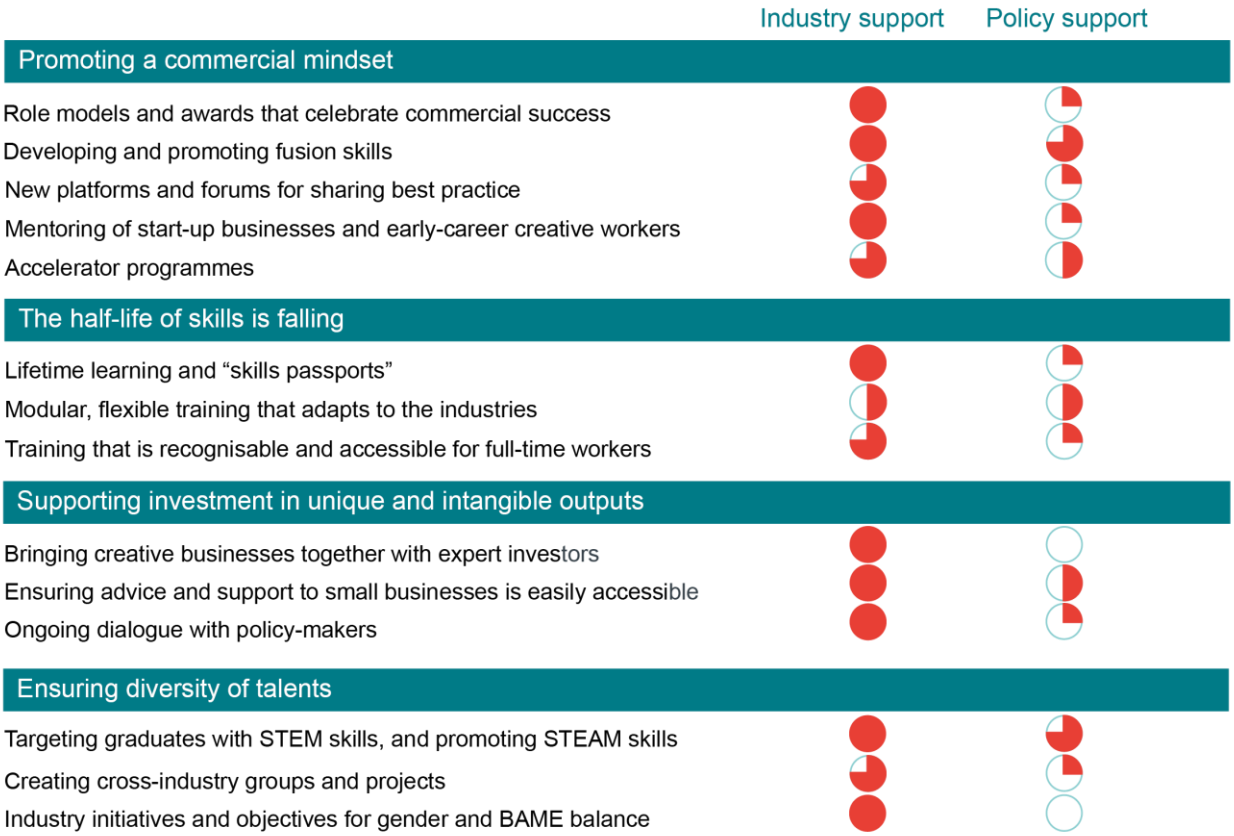
Tackling these challenges

In grasping these opportunities we recognise that the Creative Industries are not starting with a blank sheet of paper. There is already an ecosystem of trade bodies, public sector initiatives, educational institutions, financing specialists and partnerships linking them. Many of these institutions are already active in seeking solutions to some of the problems that we have identified. Our hope is to provide new perspectives and supporting evidence to help shape and better target these initiatives.

The table below provides a summary of the four types of challenge that we have identified, and the opportunities that we see to tackle them. For each case we have given an indication of the degree to which solutions might be driven within the industries themselves or would benefit from government support. Our view is that in the majority of cases much of the solution and capability may lie in industry hands, but that there is an important role for government in facilitating and coordinating such initiatives, ensuring consistency with other policy actions, and maintaining a keen understanding of these rapidly evolving issues.

While the focus of this report is on the Creative Industries, we believe that there may be direct read-across to similar challenges and opportunities in other sectors. This applies for both the wider “creative economy” of creative activities that take place in other industries, and more generally to any industry that is characterised by a large number of self-employed and SMEs, the rapid change associated with digitisation, and a growing start-up culture.

Exhibit 1. Opportunities and nature of support



ACKNOWLEDGEMENTS

We would like to thank David Abraham and Paula Carter at Channel 4 who had the idea for this project and have guided us throughout. Thanks are also due to Ivan Dunleavy of Pinewood Studios and David Glick of Edge Investment Management, who joined the project steering group and have greatly influenced our thinking.

The Productivity Leadership Group, chaired by Sir Charlie Mayfield, provided the original spur for this project, and discussions with this group helped sharpen the focus on opportunities for industry-led initiatives and highlighted the overlaps with productivity challenges faced in other sectors. The team at the UK Commission for Employment and Skills (UKCES) who supported the PLG provided valuable advice and support, and in particular Lesley Giles, Katherine Chapman and Duncan Brown gave us helpful insights and suggestions along the way.

Finally, we are deeply grateful to the senior figures from the Creative Industries who gave up their time for detailed discussions on the subject of absorptive capacity. Their experience and knowledge provided a wealth of insights into the challenges and enablers of growth in creative businesses, and many of the human traits and behaviours that explain them.

Creative Economy Leaders

Hasan Bakhshi, Nesta

Ivan Dunleavy, Pinewood Studios

David Glick, Edge Investment Management

Alex Hope, Double Negative

Eddie Izzard, stand-up comedian, actor and writer

Tom Knox, MullenLowe London

David Kosse, Film4

Ian Livingstone CBE

Tom Miserendino, AEG Europe

Gerry Morrissey, BECTU

Grayson Perry, artist

Sir Richard Rogers, Rogers Stirk Harbour + Partners

William Sargent, Framestore

Productivity Leadership Group

Sir Charlie Mayfield, the John Lewis Partnership

David Abraham, Channel 4

Jeremy Anderson, KPMG

Sir Roger Carr, BAE Systems

Carolyn Fairbairn, CBI

Ian Davis, Rolls-Royce

Fiona Kendrick, Nestle

Juergen Maier, Siemens

Sir Michael Rake, BT Group

Phil Smith, Cisco

Nigel Whitehead, BAE Systems

Sir Andrew Witty, GSK

Frontier Economics project team

Federico Cilauro

Ian Hathaway

Phil Maggs

Laura Petschnig

Mick Ridge

1 INTRODUCTION

This report was commissioned by David Abraham as part of Channel 4's support to the Productivity Leadership Group (PLG).

The PLG is a group of senior business leaders, convened by Sir Charlie Mayfield, Chairman of the John Lewis Partnership, to offer advice to the Chancellor of the Exchequer and the Secretary of State for Business, Innovation and Skills on a business-led strategic approach to increasing the productivity of the UK economy.

The group has pursued seven different workstreams, each tackling a different theme in a different sector (see Exhibit 2). The work in this report started from an ambition to look at improving the diffusion of innovation in the Creative Industries.

> "…productivity isn't everything, but in the long run it is almost everything. A country's ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker."
>
> *Paul Krugman (1990)*
>
> *Economist and Nobel Laureate*

While the issue of diffusion of innovation – and the *absorptive capacity* of businesses that drives it – is highly relevant to the Creative Industries, it is also more widely applicable to other sectors of the economy. The challenges posed by digitisation and the need to grow micro-businesses and start-ups are also common to many industries. So we believe that the research and findings presented in this report have useful implications for the other PLG workstreams as well as for the Creative Industries.

Exhibit 2. Productivity Leadership Group workstreams

Theme	Sector	Sponsor
Improving business leadership and process efficiency	Advanced manufacturing	Juergen Maier (Siemens) Andrew Witty (GSK)
Accelerating the impact of digitisation	Cross sector	Phil Smith (CISCO)
Better measurement	Cross sector	Jeremy Anderson (KPMG) Ian Davis (Rolls-Royce)
Better workplace practices	Aerospace and defence	Nigel Whitehead (BAE Systems)
Opening up the talent pipeline	Food and drink manufacturing	Fiona Kendrick (Nestle)
Improving progression	Retail	Sir Charlie Mayfield (John Lewis Partnership)
Improving diffusion of innovation	**Creative Industries**	**David Abraham (Channel 4)**

Source: Productivity Leadership Group/UKCES, January 2016

2 CONTEXT: THE UK CREATIVE ECONOMY

Government defines the Creative Industries as "those industries which have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property".[2] Practically speaking, the Creative Industries are those reaching a high threshold of employment in "creative occupations" (see Exhibit 3 and Annex A.1).

Exhibit 3. Creative industrial and occupational groups

Advertising and marketing	Architecture	Crafts
Design: product, graphic and fashion	Film, TV, video, radio and photography	IT, software and computer services
Publishing	Museums, galleries and libraries	Music, performing and visual arts

Source: DCMS (2016)

Note: For more detailed industry and occupation classifications, see Annexes A.1 and A.2

The Creative Industries receive a lot of attention in the UK. For example, the Department for Culture, Media & Sport (DCMS) publishes an annual statistical report on the size and trends of the creative economy and no fewer than twenty organisations exist in whole or in part to promote and support this sector.[3]

According to DCMS, the Creative Industries generated £84 billion in economic output in 2014, comprising 5.2% of the UK economy.[4] When the economic contributions of creative workers in other industries are included, that figure grows to £133 billion, or 8.2%. The Creative Industries employ 1.8 million workers (in both creative and support roles; as both employees and self-employed), while another 1 million workers are employed or self-employed in creative roles in other industries.

Many businesses in the UK Creative Industries are among world leaders in their field, and the sector as a whole has demonstrated an ability to tap into a global market – DCMS reports £17.9 billion in exported Creative Industries services in 2013, or 8.7% of the UK total.[5]

2.1 Distinctive features of the UK Creative Industries

There are a number of distinctive features of the Creative Industries that can help explain innovation and performance dynamics in the sector, as well as highlight areas of challenge and potential.

The Creative Industries are concentrated by geography and activity

More than half of all firms, nearly six in ten workers, and almost three-quarters of annual turnover (revenue) in the Creative Industries are concentrated in London

[2] DCMS (2001).

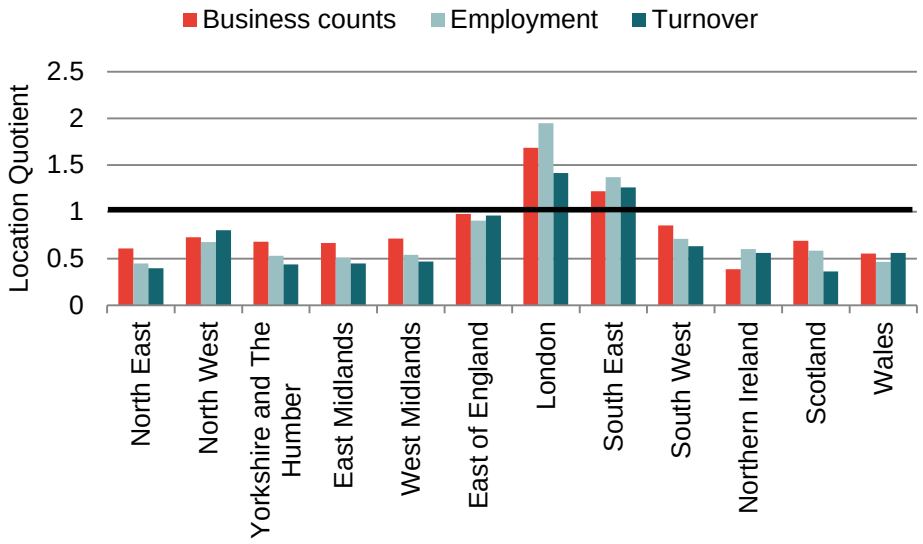
[3] See, UK Creative, Partners: http://www.thecreativeindustries.co.uk/resources/partners

[4] DCMS (2016).

[5] UKTI (2014); DCMS (2016).

and South East England. This concentration holds even when adjusting for total economic activity in the region (see Exhibit 4). Similarly, more than half of all Creative Industries economic activity is concentrated in two subsectors: in IT, software and computer services, and in film, TV, video, radio and photography (see Exhibit 5).

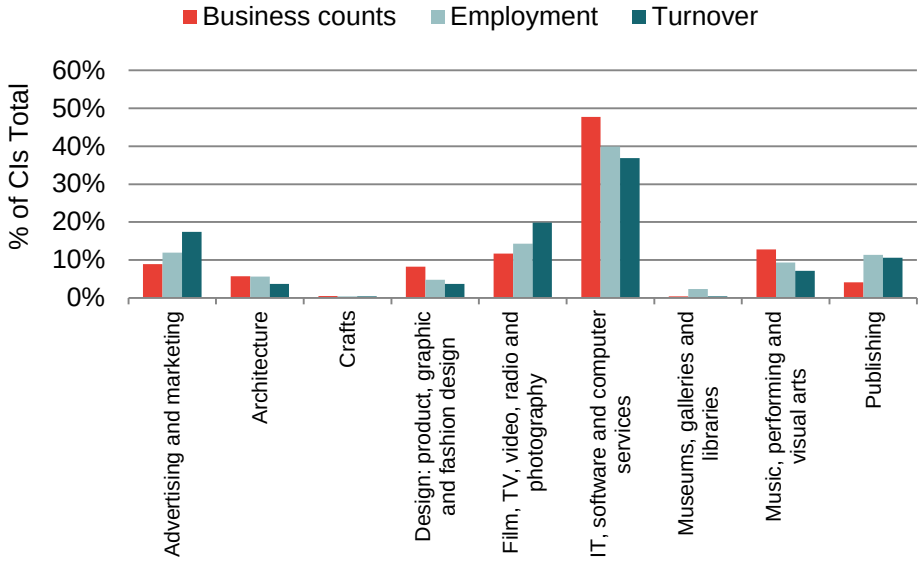
Exhibit 4. Creative Industries location quotients by measure and region (2014)



Source: ONS, Business Structure Database; Frontier Economics analysis

Note: Values equal to 1 indicate Creative Industries regional concentration equal to the UK average; values greater than 1 indicate above average concentration; those with less than 1 are below average

Exhibit 5. Creative Industries activity distribution by measure and sector (2014)



Source: ONS, Business Structure Database; Frontier Economics analysis

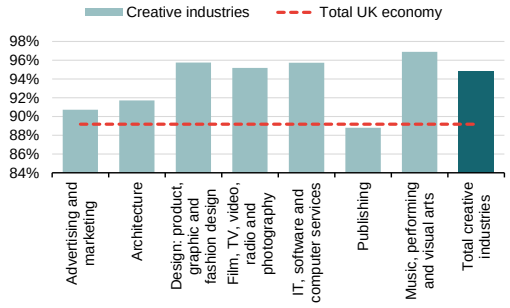
The Creative Industries are heavily constituted by (very) small firms

The UK Creative Industries are also concentrated by firm size – populated by a disproportionately large number of micro-enterprises compared with the rest of the economy. As a result, the Creative Industries have lower percentages of small and medium-sized enterprises (SMEs) and large firms. The same holds when looking at the distributions of employment (see below) and turnover (not shown).

These findings are nearly universal across the Creative Industries subsectors as well – with the exception of publishing, and to a lesser extent in advertising and marketing, and in architecture, which have a greater share of activity occurring in SMEs and large firms compared with the other Creative Industries subsectors.

The presence of a large concentration of micro-enterprises has raised concerns about overall performance in the Creative Industries. This is because, in general, micro-enterprises are less productive, innovative, and growth-oriented than are larger businesses. While this report verifies these relationships between firm size and performance, it also reveals that there are more nuances to that story.

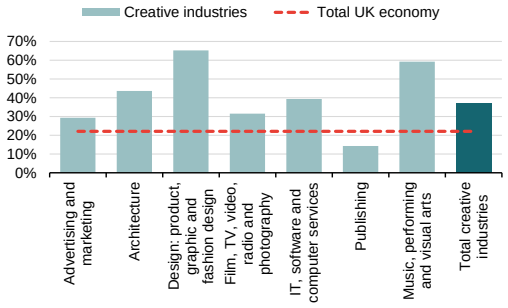
Exhibit 6. Micro-enterprise share of sector businesses (2014)



Source: ONS, Business Structure Database; Frontier Economics analysis

Note: Micro-enterprises employ fewer than 10 workers

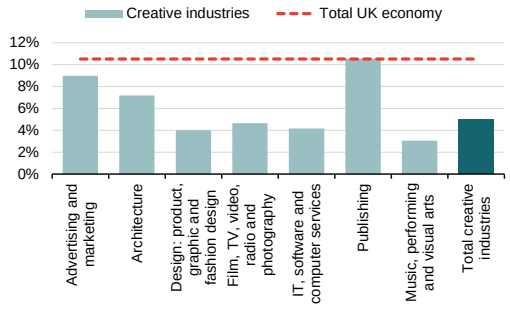
Exhibit 7. Micro-enterprise share of sector employment (2014)



Source: ONS, Business Structure Database; Frontier Economics analysis

Note: Micro-enterprises employ fewer than 10 workers

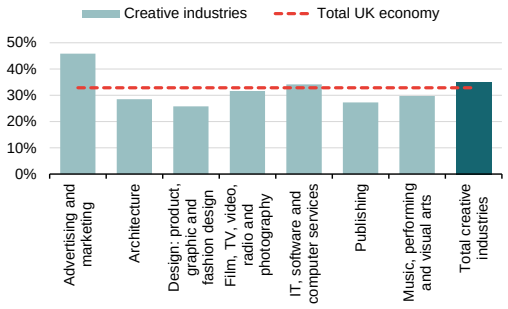
Exhibit 8. SME share of sector businesses (2014)



Source: ONS, Business Structure Database; Frontier Economics analysis

Note: Small and medium enterprises (SMEs) employ between 10 and 249 workers

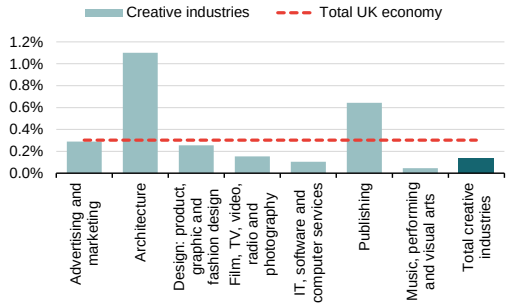
Exhibit 9. SME share of sector employment (2014)



Source: ONS, Business Structure Database; Frontier Economics analysis

Note: Small and medium enterprises (SMEs) employ between 10 and 249 workers

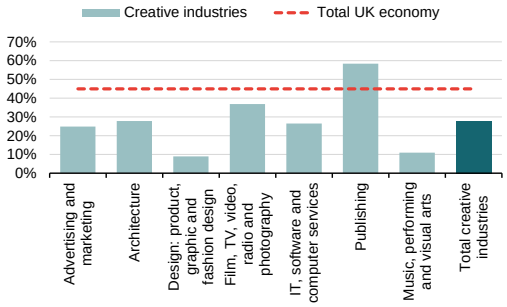
Exhibit 10. Large enterprise share of sector businesses (2014)



Source: ONS, Business Structure Database; Frontier Economics analysis

Note: Large enterprises employ 250 or more workers

Exhibit 11. Large enterprise share of sector employment (2014)



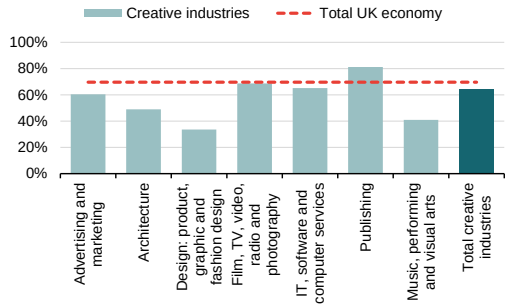
Source: ONS, Business Structure Database; Frontier Economics analysis

Note: Large enterprises employ 250 or more workers

Dispersion in the Creative Industries is driven by a long tail – not concentration at the top

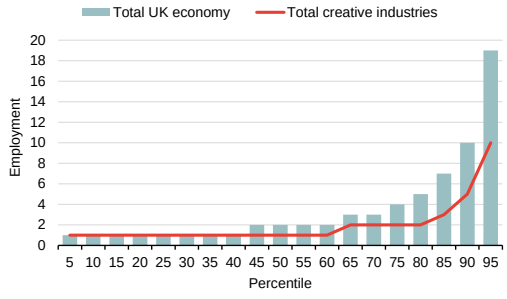
The Creative Industries, like other sectors, are populated by a number of leading firms on a global scale, which dominate sector economic activity – for example, firms in the top five percentile account for 62% of employment and 82% of turnover. However, this is still less concentrated than the entire economy, where those same figures are 70% and 89%, respectively. Publishing is the only area of the Creative Industries that has a disproportionately high share of activity occurring in the top 5% of firms.

Exhibit 12. Share of employment in top 5% of firms (2014)



Source: ONS, Business Structure Database; Frontier Economics analysis

Exhibit 13. Employment levels by percentile distribution (2014)



Source: ONS, Business Structure Database; Frontier Economics analysis

Rather than being characterised as a sector with a handful of firms responsible for a particularly large share of economic activity, a better description of the Creative Industries might be one that emphasises a 'long-tailed' distribution – with a large population of very small firms. It isn't just that the Creative Industries have a high proportion of micro-enterprises; it's also that within these micro-firms, the Creative Industries are skewed to the very smallest. Creative Industries firms at the 90th percentile have five employees, at the 80th percentile two employees, and at the 60th percentile just one employee. Those same figures for the

economy as a whole are, respectively, ten employees, five employees, and two employees.

Combined, the Exhibits 12 and 13 tell a clear story: the Creative Industries are dominated by a large number of very small firms. Many of these micro-enterprises are in fact vehicles for self-employment, rather than bona fide small businesses that may be focused on and most poised for growth.

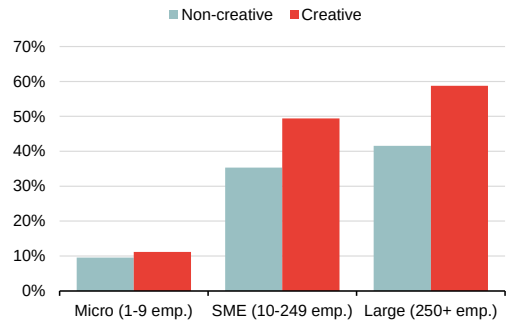
An analysis of data from the Small Business Survey bears this out, showing that only half of micro-enterprises even have the *intention* to grow – a smaller subset are able to achieve it. Small businesses (those between 10 and 49 employees) are 50% more likely to have growth intentions than are micro-enterprises. These findings are consistent when looking at the Creative Industries separately.[6]

These distinctions – between micro and small; between growth-driven and not – are critical for policy. Given the size composition of the sector, one might expect innovation and productivity to be lagging behind. While the size distribution does pull performance metrics down somewhat in the aggregate, our deeper analysis of the data shows that firms in the Creative Industries outperform nonetheless.

The Creative Industries are highly innovative

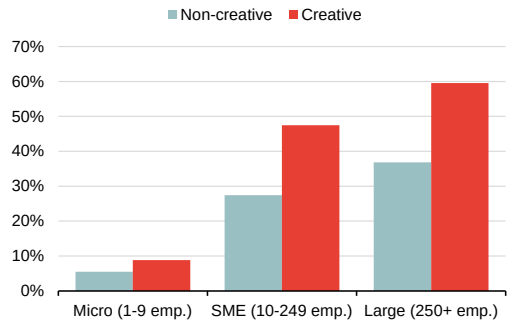
Innovative activity takes many forms – not just research and development (R&D) or the introduction of new goods and services, but also in new organisational processes, managerial practices, marketing approaches, and forms of customer engagement, among others. Firms in the Creative Industries engage in innovative activities at a higher rate than do businesses as a whole – this is true across various types of innovative activity and across firm size categories.

Exhibit 14. Share of businesses that introduced new goods, services, or processes (2008-2012)



Source: ONS, Community Innovation Survey; Frontier Economics analysis

Exhibit 15. Share of businesses that performed or acquired R&D (2008-2012)



Source: ONS, Community Innovation Survey; Frontier Economics analysis

At a broad level, there is a clear positive relationship between firm size and the likelihood of engaging in innovative activity – large firms lead the way, followed closely by SMEs, which are far ahead of micro-enterprises. These relationships potentially point to scale economies or other barriers to innovation for very small firms. Despite a wide amount of variation in the business models and growth

[6] ONS, Small Business Survey (2012); Frontier Economics analysis.

ambitions of micro-enterprises, they are still considered a key source of "disruptive" innovation (i.e. transformative, broad-sweeping).[7] Phrased differently, most micro-firms do not intend to grow and many more never will. But a few will, and these may be the source of a new wave of disruptive innovation and growth.

A second relationship that becomes clear is that at each size interval, firms in the Creative Industries are more likely to engage in innovative activities compared with firms across the entire economy. These differences are largest among SMEs and large firms. Creative Industries micro-enterprises outperform others, but their levels are still generally quite low.

Overall, firms in the Creative Industries are much more likely to be engaged in innovative activity compared with the rest of the business sector. These differences are muted somewhat at an aggregate level because of the size composition of the Creative Industries; however, when accounting for the heavy concentration of micro-enterprises, the performance of innovation in the Creative Industries can be seen much more clearly.

The Creative Industries are highly productive

Productivity is a difficult thing to measure, but doing so is critical – it is the primary ingredient of long-term, sustained economic growth and prosperity. In a simplistic sense, productivity describes how efficient the economy is – how well it produces output from a variety of inputs.

Ideally, productivity is calculated as the measurable change in output after adjustments have been made for the measured change in inputs: labour, capital, and intermediate goods and services. This approach is referred to as total factor productivity (TFP). But the data requirement for accurate TFP measures can make them difficult to obtain and compare reliably over time. A second-best approach, labour productivity, expresses the level of output as a ratio to labour inputs (employees or hours worked).

Given the difficulties of obtaining accurate TFP measures, the latter approach is presented here. Exhibits 16- 19 show industry output in terms of gross value added (GVA) on a per worker basis, for the Creative Industries as a whole, for each of its subsectors, and for the entire UK economy. The charts present the data by firm-size categories: micro-, small, medium-sized, and large firms.[8]

A few insights appear. First, output per worker generally increases with firm size. This is especially true for the Creative Industries and its subsectors, whereas the

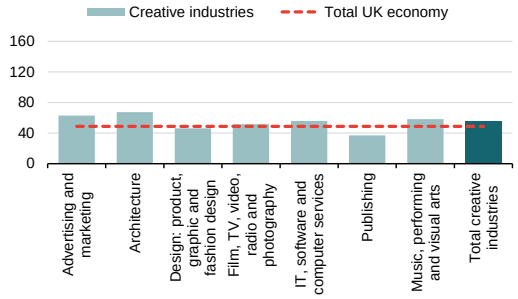
[7] Our analysis of Community Innovation Survey data found that micro-enterprises – and especially Creative Industries micro-enterprises – were most likely to introduce new goods to market. This may be interpreted as "disruptive innovation"; however, due to questionnaire wording, we suggest a cautious interpretation of such data.

[8] To derive labour productivity estimates for different firm sizes we have used data of both GVA and employment from the ONS Annual Business Survey. These estimates may thus differ from more aggregate sector figures produced by DCMS which are derived from different sources. The Annual Business Survey is based on the Inter-Departmental Business Register (IDBR) which only includes businesses that are registered for VAT, and employers who operate PAYE Income Tax schemes. Consequently it excludes businesses that do not run a PAYE scheme and/or have turnover below the threshold required to register for VAT (currently £83,000 per year). ONS estimates that IDBR accounts for 99% of activity across the entire UK economy, but since the excluded businesses are most likely to be self-employed proprietors and partnerships then our best estimates for micro-businesses may still be biased towards the productivity of slightly larger firms.

trend for the economy as a whole is more complex – productivity doesn't increase in a linear fashion with firm size groups. Again, because the Creative Industries are so heavily concentrated in very small firms, all else equal, we would expect productivity at sector aggregates to be lower, pulling down averages because of size composition alone.

Secondly, when disaggregating by firm size, the Creative Industries are more productive than the rest of the economy. This is true universally across the firm size categories, and nearly so among the various Creative Industries subsectors.

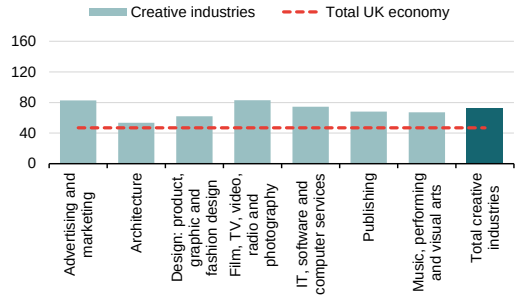
Exhibit 16. Micro-enterprise GVA per worker (000s £) (2013-14)



Source: ONS, Annual Business Survey; Frontier Economics analysis

Note: Micro-enterprises employ fewer than 10 workers

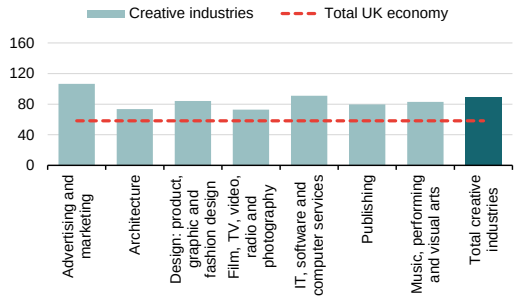
Exhibit 17. Small Enterprise GVA per worker (000s £) (2013-14)



Source: ONS, Annual Business Survey; Frontier Economics analysis

Note: Small enterprises employ between 10 and 49 workers

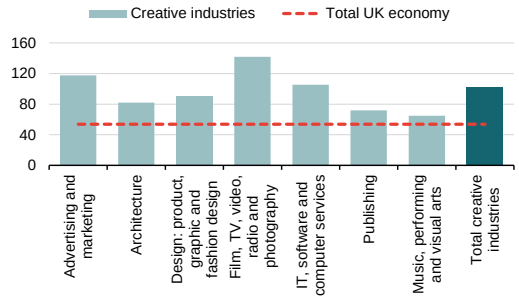
Exhibit 18. Medium Enterprise GVA per worker (000s £) (2013-14)



Source: ONS, Annual Business Survey; Frontier Economics analysis

Note: Medium enterprises employ between 50 and 249 workers

Exhibit 19. Large Enterprise GVA per worker (000s £) (2013-14)



Source: ONS, Annual Business Survey; Frontier Economics analysis

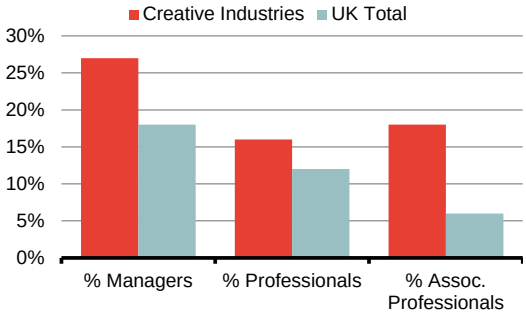
Note: Large enterprises employ 250 or more workers; data for Design have been restricted due to small sample size - plotted figure is an estimate

The Creative Industries are populated by a highly skilled workforce

Employment in knowledge-based and creative roles requires high levels of skills, which often translates into higher levels of educational attainment. As a result, it shouldn't come as a surprise that workers in the Creative Industries tend to have higher levels of educational attainment and formal qualifications.

More than 60% of those employed in the Creative Industries are in high skill occupations (managers, professionals, and associated professionals), compared with 36% for the entire UK economy. Similarly, 65% hold a Level 4 qualification or higher in the Creative Industries, versus 40% in the entire UK. Just 8% of Creative Industries workers have qualifications below Level 2 (compared with 16% overall).

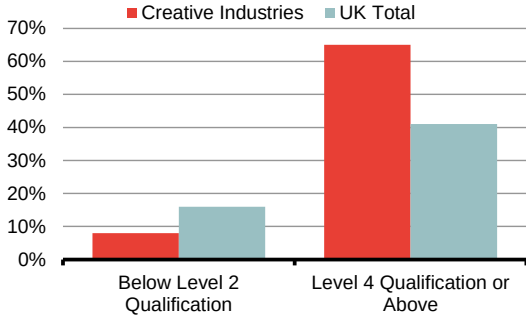
Exhibit 20. Share of employment by role (2014)



Source: ONS, Labour Force Survey; UKCES (2015)

Note: Figures do not sum to 100% because this is a partial list of (high-skill) occupations

Exhibit 21. Share of employment by qualifications (2014)



Source: ONS, Labour Force Survey; UKCES (2015)

The Creative Industries are dynamic and entrepreneurial

The business sector is in a constant state of churn. Firms are regularly being born, failing, growing, and contracting. Business dynamism is fundamental to modern economies, and has consistently been linked with productivity growth, innovation, and job creation – more productive firms replace less productive ones as capital and labour are reallocated to more efficient uses, young start-ups look to disrupt incumbents through innovations of product and business model, and high-performing firms grow into larger ones.[9]

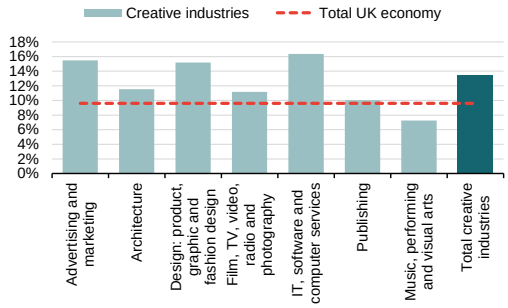
This process of "creative destruction" is inherently disruptive, but vital to long-run economic growth.[10] Business formation is fundamental to this process. Viewing entrepreneurship through this dynamic lens (firm entry); the Creative Industries are more dynamic and entrepreneurial than the private sector as a whole. This is true for each of the Creative Industries subsectors as well, outside of the music, performing and visual arts sector.

Similarly, the "net firm entry rate" (firm entry rate minus firm exit rate) in the Creative Industries is higher, which indicates that the sector overall is growing faster than for the economy as a whole. In fact, the rate for the UK economy is negative – more businesses are failing than being born each year.

[9] Syverson (2011); Haltiwanger (2011).

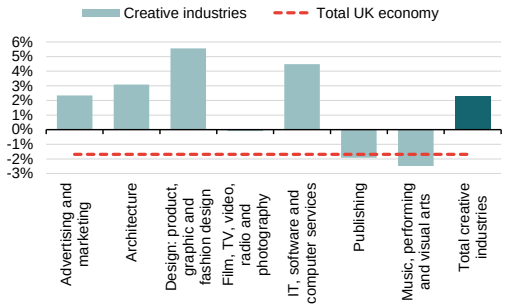
[10] Schumpeter (1942), pp. 81–86.

Exhibit 22. Annual firm entry rate (average 2008-2014)



Source: ONS, Business Structure Database (BSD); Frontier Economics analysis

Exhibit 23. Annual net firm entry rate (entry minus exit) (average 2008-2014)



Source: ONS, Business Structure Database (BSD); Frontier Economics analysis

3 ABSORPTIVE CAPACITY

The term “absorptive capacity” was first coined in an academic study by Cohen and Levinthal in 1990 and later refined by additional research in the decades that followed.[11] After conducting a comprehensive review of this literature, we define absorptive capacity as in the box below.

WHAT IS ABSORPTIVE CAPACITY?

Absorptive capacity is the ability of a firm to identify and acquire relevant external knowledge, assimilate it, transform existing knowledge and practices, and exploit these new capabilities for commercial ends. A firm’s absorptive capacity has been strongly linked with achieving competitive advantage in dynamic environments through product and process innovations, performance efficiency, and strategic flexibility and adaptability.

This shifted the academic focus on innovation and R&D activity to look also at how businesses take advantage of new ideas in the market. Zahra and George expanded this foundational work by distinguishing between potential absorptive capacity (the ability to identify and assimilate ideas) and realised absorptive capacity (the ability to *transform* and exploit new ideas).[12] They further recognised absorptive capacity as a dynamic capability (strategic and organisational) and a combinatory capability (with interdependent elements).

Over the last twenty-five years many academics have tested these theories empirically.[13] Early studies tended to focus on indicators of innovation activity such as R&D effort (expenditure, activity), human capital formation (employment, training) and other intangible investments (organisation structure, management practices). Later work used surveys and questionnaires to explore issues such as knowledge management, collaborative working and knowledge acquisitions.

More recently researchers have shifted to a “practice-based” approach, focusing on individual practices within firms and relating this to output and performance measures

A model of absorptive capacity

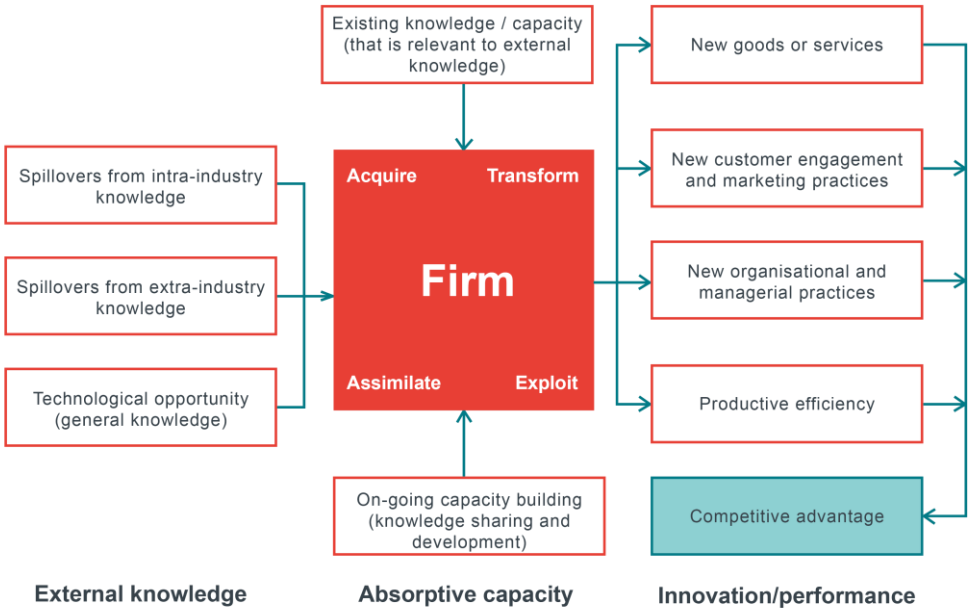
Collectively, there exists a substantial body of a research linking measures of absorptive capacity with firm innovation and performance, and outlining the channels through which mechanisms work. Exhibit 24 shows the theoretical view of how the different sources of knowledge are combined with company capabilities to improve commercial performance.

[11] Cohen and Levinthal (1990).

[12] Zahra and George (2002).

[13] For a full list of documents reviewed, see Bibliography.

Exhibit 24. A model of absorptive capacity



Drivers of absorptive capacity

What does the literature tell us about what businesses can do to enhance absorptive capacity? Looking across the theory and evidence from academic research studies, four factors stand out:

1. **Identifying opportunities**: links with the external environment, including other sectors, help firms to spot opportunities from new ideas and technological capabilities.
2. **Assimilating information**: maintaining a broad knowledge base and embracing diverse perspectives helps firms to assimilate the opportunities available and explore how they are relevant to their particular business.
3. **Transforming knowledge into activity**: cutting-edge skills across multiple disciplines help firms to turn ideas into processes, activities and products.
4. **Exploiting innovation**: a culture of innovation and commercial focus help firms to see the potential value in new opportunities and give the ability to successfully position innovations in their markets.

4 INDUSTRY PERSPECTIVES

Creative Industries rely on innovation and the absorptive capacity of businesses. Yet the industry structure and nature of creative businesses can create some challenges to this.

To understand the state of absorptive capacity in the UK Creative Industries and some of the challenges that people in those industries face we conducted interviews with a selected group of industry leaders. We sought out people who had experience of commercial success based on innovation, and could provide perspectives on working:

- in different countries and markets;
- with organisations of different scales and types;
- with early-stage businesses; and
- with individuals who have different skills and backgrounds.

By identifying individuals in the Creative Industries with experience spanning companies, sectors and markets the aim was to identify not just what works but what might be missing in the UK and how our creative businesses compare to the best in the world.

The group was selected to include representatives from the wide range of creative sectors and included entrepreneurs, CEOs, investors, trade association and union leaders, artists and performers, along with several people who had experience of involvement in government policy alongside their commercial background.

Sector characteristics

The Creative Industries are not a homogeneous group of sectors or businesses; they span a wide variety of markets in which a multitude of people and organisations operate. Members range from fashion designers and artisan craftspeople to coders and digital marketeers, working as individual contractors or in settings that vary from start-ups to multinational conglomerates. But in talking to the group, some commonalities between the sectors and a series of themes started to emerge.

While the individual components of the Creative Industries are each different and face their own challenges, the broad characteristics that we saw in the data were echoed by the people we spoke to.

The UK is a global leader in creativity, and we have world-class competitors and outputs in every one of the Creative Industry sectors. Our education system produces creative talent, and our culture and cities are attractive to creative people from all over the world. London has particular importance as a creative hub for many of the sectors, though other geographic clusters exist and are growing.

The prevalence of SMEs, micro-businesses and a large population of freelancers and the self-employed is a feature of many of the Creative Industries, and seen as a growing trend. A growing start-up culture goes hand-in-hand with this.

Digitisation and the subsequent shift to mobile technology have had a disruptive and transformative effect on almost all of the creative sectors. The effects have been seen in every part of the value chain – from the way in which ideas are generated, through the creation of products, methods of distribution, pricing and commercial models, to marketing and maintaining customer relationships. In some cases – such as visual effects, music distribution or the games industry – the changes to the very nature of the business are instantly recognisable. In others, such as architecture, fashion or the performing arts, changes in how people work have been just as dramatic even if less visible to those outside the sectors.

As we explored some of these issues a set of common barriers to absorptive capacity for small and micro-businesses started to emerge, leading us to identify four sets of challenges:

1. The need to promote a commercial mindset
2. The half-life of skills is falling
3. Innovation thrives on diversity of talents
4. Outputs are often intangible and inherently unique

We explore each of these below and outline some of the opportunities that could be taken to address them by companies, industry groups and, in some cases, government policy.

4.1 "We need to promote a commercial mindset"

Perhaps the most common theme among everyone that we spoke to was the importance of having a "commercial mindset" – both in terms of the desire for commercial success and the right combination of skills needed to achieve it.

The challenges appear to be both cultural and functional. While the UK is good at producing talented creative people, there is a concern that in some sectors the aspiration for "creative success" can shift focus away from "commercial success". That is, a passion for creating work that is distinctive, unique and mould-breaking is sometimes prized above a desire for profitable sales at scale.

This narrow view of creative success was contrasted with the prevailing culture in Creative Industries in the US, where a desire for commercial success and impact at a national level seem to be more ingrained. The roots of this may lie in our education system, where a greater degree of specialisation is encouraged.

> I see some brilliant tech people coming out of the best universities in the UK – but the ones from Stanford and MIT are just as brilliant plus they learn more about the importance of overlapping technology, design and business."
>
> *Alex Hope*
>
> *Founder, Double Negative*

This, in turn, may also be the root of the functional challenge to a commercial mindset – possessing the fusion of creative, commercial and productive skills that are needed to bring an innovative idea to fruition. Examples included film school graduates with brilliant film-making skills but little understanding of the business of film distribution, the need for architectural students to understand planning law and sociology, fashion graduates who would benefit from a better understanding of good procurement practices and stock control, and the importance of intellectual property law across a wide range of creative businesses. Equipping people with these vital *fusion skills* early in their careers was seen by many as a key opportunity for boosting absorptive capacity.

Mentoring was also identified as a powerful way of addressing both the cultural and functional challenges to building a more commercial mindset. Many of those we spoke to had seen the benefits of mentoring at early stages in their own careers and businesses, and then later as mentors themselves.

> It's important to combine new ideas and enthusiasm with experience and knowledge. It's about knowing when to bring in other people, often from other disciplines, and tap into a breadth of experience."
>
> *Richard Rogers*
>
> *Founder, Rogers Stirk, Harbour + Partners*

A number of people described how they teamed young talent in their own organisations with more experienced staff and outside experts in order to nurture innovation. Similarly, we also heard how private equity and venture capital investors often bring industry experience and new commercial skills to businesses.

Accessing this type of expertise can be much harder for start-ups and SMEs that do not have connections to suitable experts and mentors. Also, the culture of mentoring is perhaps less developed in the UK than it could be. For example, one person described how being a mentor has become a badge of success in Silicon Valley, and something that people actively seek to become involved with.

> Being prepared to fail is absolutely key. It toughens you. You have to have people that want to do things and have an attitude of perseverance."
>
> *Eddie Izzard*
>
> *Stand-up comedian, actor and writer*

Another cultural comparison with Silicon Valley that came up several times was the "willingness to fail" that has been embraced by the tech community in the US. The idea that it might take multiple failed business ventures before you hit on a winning formula has gained a lot of traction there, and while it is now permeating the tech community here it has not yet been absorbed into all parts of the Creative Industries. This attitude impacts on both people's willingness to launch new ventures and the way in which they manage them subsequently. That's not to say that the failure of creative outputs should be blindly ignored, but rather that a sense of commercial realism should be applied to both successes and failures.

Opportunities

Role models and awards that celebrate commercial success in the Creative Industries. The balance between a desire for creative success and desire for commercial success needs to be handled carefully as ultimately both are needed for a creative industry to prosper and grow. A practical way to redress this balance might be the launch of new awards and competitions that celebrate commercial success and business growth alongside those that celebrate creative brilliance. Similarly, while some leading figures in the Creative Industries already champion the need for commercial focus, there is perhaps scope for industry leaders to do even more to share their business acumen.

Developing and promoting fusion skills that combine creative, technical and commercial capabilities was one of the strongest and most consistent themes we encountered. As many pointed out, the opportunities for this start early on in the education system and continue through further and higher education and beyond. The new Executive MBA for the Creative Industries (see box) developed by Ashridge Business School with Creative Skillset and David Puttnam's Atticus Education is a good example of how this sort of skills development can be targeted at an executive level. Apprenticeships, professional qualifications and on-the-job training all offer further routes to promoting fusion skills.

New platforms and forums for sharing best practice. In addition to training, mentoring and direct support the sharing of knowledge between businesses is also a valuable route to promoting a commercial mindset. While there can be barriers to knowledge sharing between businesses that are in close competition with each other, creating cross-industry forums could open up the potential for sharing experience on broader issues such as negotiation with investors, contract design or management practices.

Mentoring of start-up businesses and early-career creative workers was another strong theme in many of our discussions. Initiatives like Nesta's Creative Business Mentor Network,[14] which started by targeting small businesses with a turnover of £1 million plus, or the coaching and advisory services offered in Scotland by the Cultural Enterprise Office to businesses with fewer than ten employees and turnover below £1.6 million show how support can be targeted in different ways.[15] Finding ways to make mentoring a badge of success for the mentor, and create sustainable mentoring networks within the industries could help make more of this approach.

Accelerator programmes that combine mentoring, professional services support and financing (often in return for equity) are a way of rapidly boosting the commercial prospects of a business. Well established in the US, the model has already transferred to the tech sector in the UK and has the potential to be more widely applied in the Creative Industries. Creative England's "Digital Accelerator"

[14] See http://www.nesta.org.uk/project/creative-business-mentor-network.

[15] See http://www.culturalenterpriseoffice.co.uk/business-support

programme is one relatively small-scale example.[16] Developing more substantive, self-financing private-sector vehicles may be the opportunity for the future.

EXAMPLE: EXECUTIVE MBA FOR THE CREATIVE INDUSTRIES

Ashridge Business School is launching a new MBA programme in October 2016 specifically designed for the Creative Industries. According to Ashridge, it is intended "for busy professionals either already working in the creative sector or looking to make the transition into the sector, who wish to gain the strategic skills and knowledge required to respond to increased digitisation and globalisation". And while it covers core MBA topics like marketing, finance, operations, leadership, strategy, global management, sustainability, economics and innovation, the material has been tailored to make it relevant and immediately applicable to the Creative Industries. By allowing large parts of the course to be studied online, with a series of residential periods over two years, it has been made more accessible for people who have limited opportunity to take time away from their business.

4.2 "The half-life of skills is falling"

As described above digitisation has disrupted and revolutionised the Creative Industries. Some industries, such as visual effects for film and TV, have transformed almost entirely. Even areas that might be thought of as more traditional – such as theatre – have seen radical shifts in the use of computer-controlled lighting and stage mechanics.

> Around 60% of people in our industries are self-employed now, whereas it used to be closer to 30%. Keeping up with skills and investing in training can be hard for these people."
>
> *Gerry Morrissey, General Secretary of BECTU (Broadcasting, Entertainment, Cinematograph and Theatre Union).*

Many creative businesses have been quick to adopt new technology and new business models. And start-ups, by their nature, are often at the cutting edge. The challenge is in enabling people to keep up with an accelerating pace of change.

At their heart, most creative businesses are founded on human capital. It is the ability of creative workers to use technology to turn their ideas into usable products and services that creates value. The core technical and craft skills that creative workers learn from their education and early careers are being eroded more quickly as familiar systems and tools change at an increasing rate. In some sectors, by the time a two- or three-year training programme has been completed the standard tools of the trade will already have moved on.

For those in large organisations, or with steady streams of work using the latest tech, this is not necessarily a problem. They may have the chance to learn on the

[16] See http://www.creativeengland.co.uk/story/creative-england-launches-digital-accelerator-to-boost-creative-smes.

job, access to colleagues and new joiners, and sometimes opportunities for further training.

The greater risk is for freelancers and those in small businesses where the opportunities can be fewer. That may be because they are too busy simply trying to survive to invest significantly in training. Or because they fall into a mode of operating that is initially successful but fails to keep pace. Many freelance workers in the creative sectors have come from larger businesses which they left armed with state-of-the-art skills. The challenge comes five or six years down the line when, although they may have been successful to date, keeping up with technological developments can be hard.

The high proportion of contractors and SMEs in the Creative Industries poses a potential time bomb. The worry is that a generation of creative workers may be left behind. And while the education system may meet the needs of those entering the workforce, we need to find ways to help existing workers continue to refresh and develop their skills throughout their working lives.

Opportunities

Lifetime learning and skills "passports". The model of a professional qualification that is earned at an early career stage and stands the holder in good stead for the rest of their working life is outdated. An updatable form of professional qualification that demonstrates proficiency with current technologies and standards could provide a better alternative. A skills "passport" that can be refreshed (at least) every ten years and can be transported between jobs could help to maximise the prospects of new entrants to the workforce, and ensure that existing workers don't fall by the wayside.

Modular, flexible training that adapts to the industries as they develop is essential. This may require a more agile approach to developing and approving new qualifications. And close involvement by industry professionals at regular intervals is needed to ensure that courses focus on the latest skills and tools.

Training that is recognisable and accessible for full-time workers. To meet the needs of people who are already in the workforce, new forms of training need to be accessible to those in full-time employment. Simply going "back to school" every few years is unlikely to be practical and so training needs to be flexible and available online and at convenient times and locations. Similarly, such qualifications need to have equivalent status to full-time study.

4.3 "Outputs are often intangible and inherently unique"

By their nature, some of the most valuable outputs of the Creative Industries are intangible and often unique.[17] This is particularly true for "content" products like music, films, gaming or art but also extends to areas like product design, aesthetics, user experience, marketing mechanics, and the psychological aspects of digital interaction. It is hard to deny that a well-designed app, a new way of using a device or a striking piece of design can be the source of massive commercial success. The value of such "soft" innovation has been well researched in the academic literature.[18] But the challenges of gaining support and financing for radical new ideas can still be limiting for those trying to develop them.

> At a recent game developers conference in San Francisco I saw a lot of people from the investor and analyst community taking a keen interest, but I don't see the same level of participation from investors at similar conferences here."
>
> *Ian Livingstone CBE*
>
> *Co-founder, Games Workshop, co-creator Fighting Fantasy, and video games entrepreneur*

These problems can be faced by firms of all sizes, but for small businesses the challenges of attracting investors and commercial partners can be greater when the business first needs to identify people who have the skills to understand the product it is trying to develop. This is further complicated by the challenges of finding effective ways to communicate intangible benefits or define the impact of design on market positioning.

That's not to say that there are not skilled and knowledgeable investors out there, or that there are no experienced people with skills to offer in the trade associations and government bodies that support SMEs. The first part of the challenge for many start-ups is simply one of finding the right people to talk to. Initiatives like Tech City have shown the benefits of bringing start-ups and investors together, but the challenge is to find models that work for a wider range of creative businesses across the UK.

A second part of this challenge is the communication skills and know-how of the start-ups themselves. The success of an investment bid can hinge as much on the skill of the pitch team as the quality of the underlying proposition. Knowing when to bring in additional business skills or knowledge to reinforce a business plan can be vital. For example, securing protection for intellectual property, developing a well-founded business plan and investment case, practical experience of overseas markets, product prototyping and market testing can all play key parts in securing the investment that is needed to grow. But several of those that we spoke to observed that start-ups (creative and otherwise) can get hung up on the product and not devote sufficient resource to these other critical areas.

[17] Livingstone & PWC (2015) describes both the value of "content" businesses and some of the challenges that they face. http://www.pwc.co.uk/industries/entertainment-media/insights/imagi-nation.html

[18] See, for example, Stoneman (2010).

Another observation was that for small businesses, and individuals, the amount of time needed to get help can itself be prohibitive. Navigating the different industry bodies and government schemes can be difficult if you don't know where to start (even more so if your idea doesn't neatly fit into an existing box). Similarly, trawling the conference circuit and industry breakfasts in search of the right partners can take time that individuals cannot always afford to spare.

Finally, there was a view that the challenges of explaining the value of creative businesses and assets to investors can sometimes be mirrored in discussions with government. Several people noted that their most positive experiences of interaction with government came when there was a shared understanding of the intricacies of their business and the market in which it operated.

> There are some skilled investors out there who know how to value unique businesses – but as a creative start-up they're not always easy to find."
>
> *David Glick*
>
> *CEO Edge Investment Management*

There was a strong recognition of the positive effects of a number of policy initiatives – for example R&D tax credits, entrepreneurs' relief and creative industry tax reliefs – have been very valuable. The "GREAT Britain" campaign was also pointed to by several people as a good example of government harnessing creative talent successfully. But it was also noted that a historic tendency for innovation policy to focus on science and technology can be at the expense of the wider types of creative innovation and investment needs on which much future growth may depend.[19]

Opportunities

Bringing creative businesses together with expert investors must be the key to unlocking the capital needed to finance growth. A degree of education may be needed on both sides to maximise the effective communication of the potential value of creative ideas, especially in content businesses. Forging links between industry bodies and the investor community and supporting research by investment analysts could help raise awareness among investors and foster greater understanding of new business models and ways of valuing creative assets. The government-owned British Business Bank (see the box on the Edge Creative Investment Fund) is also well placed to promote links between investors and creative businesses.

Ensuring advice and support to small businesses is easily accessible. Practical help on issues like business valuation, financing and partnership models, legal protection, and contract design is clearly valuable but requires two things. First, advice can benefit from being tailored to specific sectors and business models. Second, it needs to be easy for people to find. A number of the people we spoke to felt that good sources of advice and information were out there, and that both industry and public sector bodies offer valuable sources of

[19] For example, the eligibility of expenditure for R&D tax credits is often explained as being subject to two tests. (1) Has the expenditure sought to improve products or processes through an advance in knowledge or capabilities in the field of science or technology? Or (2) was it necessary to overcome scientific or technological uncertainties to achieve the improvement?

guidance. But the number of institutions and schemes is large, and tends to grow with the introduction of new schemes. Creating shortcuts and simplifying the process may help ensure greater take-up of existing services or maximise the benefits of new ones.

Ongoing dialogue with policy-makers is also important. As already described, several of the group cited positive examples of engagement with government officials who had developed a good understanding of their business and an appreciation of the opportunities for growth. The rapid evolution associated with digitisation means that the need to open and maintain dialogue is greater than ever.

EXAMPLE: THE EDGE CREATIVE INVESTMENT FUND

Edge Investments, with support from the British Business Bank, recently launched a £40 million investment fund to back fast-growing SMEs in the Creative Industries. It is targeting businesses with strong intellectual property that has good prospects for scaling via digital technologies The fund was launched in conjunction with a new practical guide for creative businesses on ways to access and leverage finance. *Creative Industries – Routes to Finance*, was produced by the Institute of Chartered Accountants in England and Wales in conjunction with the Creative Industries Federation. It provides advice on financial preparation, dealing with different types of investor, and getting the most out of professional services.

4.4 "Innovation thrives on diversity of talents"

In discussing innovation many of those interviewed identified diversity within the workforce as an important driver, for two reasons:

1. The creative dynamic that comes from bringing together people with different perspectives, different backgrounds and different approaches to problem solving.
2. The need to bring different skills to bear in successfully developing and commercialising an innovative idea.

> "It's no good having just diversity for its own sake – it's about having a diversity of talents and perspectives."
>
> *Grayson Perry, artist*

Neither of these is a new problem in itself. The benefits of workforce diversity have been well documented in recent years.[20] That's not to say that diversity for its own sake drives productivity, but rather that by bringing together skilled and talented people who think differently businesses can generate more sparks.

[20] See, for example, Hewlett, Marshall and Sherbin (2013).

Successful commercialisation has always required a combination of skills and disciplines. But as digitisation has disrupted and transformed the Creative Industries, the need to bring new skills to bear has grown.

In some cases new tools have changed the way that people work – the use of spatial modelling in architecture, automated lighting systems in theatre production, or the dramatic changes in the way that music, film and TV are produced. They have also changed business models. The nature of marketing creative products, engaging with customers and transacting with them has shifted radically. Trailers for new films are launched online, with the subsequent reaction on social media playing an important role in the launch strategy. Concerts and other live performances are promoted digitally to individual fans who follow the activity of their favourite artists in real time, and to those who frequent favourite venues.

> Technology has transformed every element of our dialogue with our customers and our artists. We're constantly chasing new ways to utilise digital information and so we have to hire people with different skills."
>
> *Tom Miserendino*
>
> *President and CEO AEG Europe*

As a result, data analytics, coding and software development, and digital marketing skills have all become part of the recipe for success in many Creative Industries. And the opportunities for successful innovation increasingly lie in combining these new skills with core creative talent.

While much of the talent already exists in the UK, there are challenges to be met in bringing it into the Creative Industries. The UK's advertising industry has an international reputation for creativity and cutting-edge campaigns. But industry leaders recognise that the advertising markets of the future are starting to look very different. While the industry has traditionally attracted a high proportion of graduates with arts and humanities backgrounds, a different approach may be needed to exploit these new opportunities. The shift of advertising spend across media channels, the growth of AdTech systems (like programmatic trading of TV advertising) and the application of data science to develop entirely new forms of campaign all highlight the need to attract the same types of people as might currently be snapped up by FinTech start-ups.

> We know how to make amazing TV ads, but the future of this industry looks very different and we need different skills to stay ahead."
>
> *Tom Knox*
>
> *Chairman MullenLowe and President of the Institute of Practitioners in Advertising*

The challenges of promoting diversity in gender, ethnicity and background are now widely accepted but remain to be solved. The need to improve the diversity of skills – particularly science, technology, engineering and maths (STEM) skills – across the Creative Industries adds to the challenge. Industry initiatives like the Creative Pioneers apprenticeship scheme are a good example of what can be achieved.[21] But the ability of many creative businesses to make the most of innovation hinges on doing more.

[21] See http://www.creativepioneers.co.uk/About

The UK's openness to different cultures, and London's significance as an international hub for creative businesses, were pointed to by many as competitive advantages for the UK. Talented creative people from all over the world want to live and work here. In many ways we are able to attract a more diverse pool of talent than might be found in Silicon Valley.

However, problems of access and affordability in London are starting to be felt and may run counter to the need to maintain a diverse labour force. The existence and growth of other creative clusters outside of London was welcomed across the group. But several recognised that this brings its own challenges as the geographic separation of talent can limit some of the scope for interactions between different industries.

This theme of cross-industry fertilisation and spillover effects was identified by several people we spoke to. From ad agencies relocating to hubs like Shoreditch, through big data teams within broadcasters, to bringing ideas from games design to mobile banking, much of the scope for innovation comes from bringing industries together. Almost everyone we spoke to saw significant value in the trade associations and industry forums in their own sectors, but felt that the potential for cross-industry collaboration could be exploited further.

Opportunities

Targeting graduates and workers with STEM skills and promoting STEAM skills is a key opportunity. As part of the new admission programme of the Institute of Practitioners in Advertising (IPA), a number of major ad agencies are offering paid internships to STEM students this year.[22] Finding ways to overcome traditional perceptions of career routes and recruitment needs is also a cultural issue. And the growing recognition of the value of STEAM skills (STEM + Arts) points to a need to both look more closely at the education system and find ways to diversify people's skillset *after* they enter the workforce.

Creating cross-industry groups and projects is also an opportunity to bring different people together. Exploiting geographic clusters – in the way that Tech City has successfully done – is a proven route. But to maximise the opportunities the industries also need to find ways to create collisions and conversations across sectors and clusters. Hiive, the Creative Industries professional networking platform launched by the UK Commission for Employment and Skills (UKCES) and the Creative Industries is a good example of this type of thinking.[23] Looking for ways for different trade associations and industry to work together and create new environments for cross-fertilisation of ideas may also be worth exploring.

Industry initiatives and objectives for gender and BAME balance can go a long way in raising awareness and triggering action in developing and sustaining a diverse workforce. For example, the Creative Access[24] scheme is creating 300 paid internships in creative businesses for black, Asian and minority ethnic

[22] See http://www.ipa.co.uk/news/ad-agencies-offer-stem-students-paid-internships-through-ipa-admission-programme-#.V08ask32aUk

[23] See https://app.hiive.co.uk/.

[24] See http://creativeaccess.org.uk/.

(BAME) graduates and the IPA recently announced targets for greater non-white and female representation in senior roles by 2020, alongside 25% of new recruits to come from BAME backgrounds.[25]

[25] Specifically , to achieve a mix by 2020 of 40% of senior roles at each level in each agency to be held by women, and at least 15% of people in leadership roles in the largest agencies to be from non-white backgrounds. See http://www.ipa.co.uk/page/ipa-gender-and-diversity-targets-and-figures-for-the-uk%E2%80%99s-biggest-advertising-agencies#.VvFF1U3cuUk.

ANNEXES

A.1 Creative Industries defined

DCMS' Definition of Creative Industries (January 2016)

Creative Industries Group	SIC	Description
Advertising and marketing	70.21	Public relations and communication activities
	73.11	Advertising agencies
	73.12	Media representation
Architecture	71.11	Architectural activities
Crafts	32.12	Manufacture of jewellery and related articles
Design: product, graphic and fashion design	74.10	Specialised design activities
Film, TV, video, radio and photography	59.11	Motion picture, video and television programme production activities
	59.12	Motion picture, video and television programme post-production
	59.13	Motion picture, video and television programme distribution
	59.14	Motion picture projection activities
	60.10	Radio broadcasting
	60.20	Television broadcasting
	74.20	Photographic activities
IT, software and computer services	58.21	Publishing of computer games
	58.29	Other software publishing
	62.01	Computer programming activities
	62.02	Computer consultancy activities
Publishing	58.11	Book publishing
	58.12	Publishing of directories and mailing lists
	58.13	Publishing of newspapers
	58.14	Publishing of journals and periodicals
	58.19	Other publishing activities
	74.30	Translation and interpretation activities
Museums, galleries and libraries	91.01	Library and archive activities
	91.02	Museum activities
Music, performing and visual arts	59.20	Sound recording and music publishing activities
	85.52	Cultural education
	90.01	Performing arts
	90.02	Support activities to performing arts
	90.03	Artistic creation
	90.04	Operation of arts facilities

Source: DCMS (2016) at Table 8

A.2 Creative occupations defined

DCMS Definition of creative occupations (January 2016)

Creative Occupations Group	SOC	Description
Advertising and marketing	1132	Marketing and sales directors
	1134	Advertising and public relations directors
	2472	Public relations professionals
	2473	Advertising accounts managers and creative directors
	3543	Marketing associate professionals
Architecture	2431	Architects
	2432	Town planning officers
	2435	Chartered architectural technologists
	3121	Architectural and town planning technicians
Crafts	5211	Smiths and forge workers
	5411	Weavers and knitters
	5441	Glass and ceramics makers, decorators and finishers
	5442	Furniture makers and other craft woodworkers
	5449	Other skilled trades not elsewhere classified
Design: product, graphic and fashion design	3421	Graphic designers
	3422	Product, clothing and related designers
Film, TV, video, radio and photography	3416	Arts officers, producers and directors
	3417	Photographers, audio-visual and broadcasting equipment operators
IT, software and computer services	1136	Information technology and telecommunications directors
	2135	IT business analysts, architects and systems designers
	2136	Programmers and software development professionals
	2137	Web design and development professionals
Publishing	2471	Journalists, newspaper and periodical editors
	3412	Authors, writers and translators
Museums, galleries and libraries	2451	Librarians
	2452	Archivists and curators
Music, performing and visual arts	3411	Artists
	3413	Actors, entertainers and presenters
	3414	Dancers and choreographers
	3415	Musicians

Source: DCMS (2016) at Table 7

DATA SOURCES

Unless otherwise stated, the statistical data utilised in this report generally come from the UK Office for National Statistics (ONS), and were accessed in its Virtual Microdata Laboratory (VML). The VML is a secure, restricted-use facility that allows researchers access to firm-level data that wouldn't otherwise be made available to the general public. We have produced statistical aggregates from these firm-level figures.

A list of datasets utilised in this report includes:

- Business Structure Database (BSD)
- Annual Business Survey (ABS)
- Community Innovation Survey (CIS)
- Small Business Survey (SBS)
- Annual Survey of Hours and Earnings (ASHE)

Note that this work contains statistical data from ONS which is Crown Copyright. The use of the ONS statistical data in this work does not imply the endorsement of the ONS in relation to the interpretation or analysis of the statistical data. This work uses research datasets which may not exactly reproduce National Statistics aggregates.

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