

Design Economy 2021

Scoping Project

The Economic Value of Design

This report was commissioned by Design Council as part of the Design Economy 2021 research programme.

Design Council is the government's advisor on design. Our mission is to make life better by design. We work with people to create better places, better products and better processes, all of which lead to better performance. We commission research, develop programmes and influence policy to demonstrate the power of design. We bring together non-designers and designers from grassroots to government and share with them our design expertise to transform the way they work.

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1.

Introduction

Design is economically important to the UK. Design Economy 2018 reported that the design economy generated £85.2bn in gross value added (GVA) to the UK in 2016 – which was 7% of UK GVA in that year and equivalent to the size of the distribution, transport, accommodation, and food sectors.

Design is growing in economic importance. The GVA contribution of the design economy grew by 10% between 2014 and 2016 – whereas the UK economy grew by 7% over that period. Moreover, between 2009 and 2016 the design economy grew by 52%¹.

The economic importance of design is not restricted to the design industries or creative industries. Designers operating in non-design industries such as aerospace, automotive and banking created the majority (68%) of the GVA ascribed to the design economy.

Design is continuously evolving. Two things have become more apparent since Design Economy 2018: first, design skills and practices are pervasive beyond the design economy; second, the intensity of design skills and practices is significant in occupations beyond those that are defined as design occupations in Design Economy 2018 and, therefore, it may be appropriate to extend the grouping of occupations that are categorised as design occupations.

Given these two shifts, the ambition for this methodological paper is to provide an updated approach to assessing the economic value of design – and the scale and demographics of those working across the design economy. This approach should retain the credibility that Design Economy 2018 enjoyed with government stakeholders (e.g., HM Treasury, BEIS), while sufficiently breaking

new ground to capture the ways in which the economic footprint of design has continued to evolve over recent years.

Building upon this update to the economic assessment of design, this paper proposes an approach for projecting this assessment forward to understand what design's contribution to the UK may be over coming decades.

1.1. What the paper will do

This paper proposes for Design Economy 2021 an updated methodology for assessment of the current economic contribution of design to the UK and its potential future economic contribution. This approach seeks to have the following characteristics:

- **Replicability:** Methodological consistency between Design Economy 2021 and Design Economy 2018 so that Design Economy 2021 can add to the emerging time series created by past Design Economy reports
- **Credibility:** Robustness to be credible with key UK policymakers and institutions
- **Updated:** To account for changes in design and related context since Design Economy 2018
- **Deliverability:** An approach that is plausible within the timescale and budget of Design Economy 2021.

Design Economy 2018 is grounded in a range of Office of National Statistics (ONS) data sets. These data sources are part of the reason for the credibility enjoyed by Design Economy 18. However, these ONS data may not fully capture the evolution of design over recent years and this gap is widening (e.g., design roles that do not align

¹ Design Council (2018). *The Design Economy 2018*. London: Design Council.

with the Standard Industrial Classification (SOC) codes used to organise data by the ONS). Thus, the ambition to update Design Economy 2021 may motivate a desire to use ONS data in different kinds of ways or to use alternative data sources or to blend these alternative data with ONS data.

We set out these possibilities in this paper. The point to note, however, is that the ambition to update Design Economy 2021 from Design Economy 2018 may be to some extent in tension with the ambitions for replicability and credibility – because updating may motivate the utilisation of alternative data and analysis, whereas replicability and credibility would revisit the same data and analysis. These imperatives will need to be balanced, while being set against the fundamental ambition for the approach to be deliverable.

1.2. Key constructs

The strength of economic analysis invariably hinges upon definition (i.e., clarity and precision around what is being assessed), data (i.e., transparency and credibility in relation to the data that is applied to the analysis), and metrics (i.e., reporting on metrics that are recognised as being economically important). Therefore, the key constructs are:

- **Definition:** Clear definition around what is in scope. The definition that will underpin this research will build on the OECD (2018) definition and those used in previous Design Economy reports, as outlined in the Introductory Paper.
- **Data:** Revisiting the ONS data used in Design Economy 2018 where appropriate and

identifying other sources where necessary.

- **Metrics:** Design Economy 2018 reported on metrics often used in economic impact studies (i.e., GVA, employment, numbers of businesses and productivity) and this method revisits these economic metrics – updating the data that is used to report on these metrics in line with updates to the definition of what is in scope.

1.3. Approach overall

The overall approach of this method entails repetition, extension, and projection:

- Repeat the Design Economy 2018 method to add to the existing time series on the economic impact of design – while reviewing the relevant occupational and industrial definitions that form Design Economy 2018
- Extend Design Economy 2018 to capture the economic impact of design skills and practices outside of the design economy as defined in that earlier report
- Strategic thinking about the future of design's economic impact across the UK and how this relates to the social and environmental contribution of design

2.

Research questions

1. Intent

1a. *What are the attitudes, motivations and intentions of designers, design firms, and their clients, in relation to their economic impact and 'good growth'?*

2. Action

2a. *What design practices and skills are used across the UK economy and how pervasive are these practices and skills?*

2b. *What occupations are sufficiently focused on these practices and skills that they can be deemed design occupations and how does this grouping of occupations (a) map on to SOC codes and (b) differ, if at all, from the SOC codes considered design occupations in Design Economy 2018? What are the future occupations/ growing sectors in which design will be sufficiently practised to be deemed a design occupation?*

3. Impact

3a. *Given this grouping of design occupations and their concentration across the industries of the UK economy, which industries form the design industries and what mix of industries and occupations forms the design economy?*

3b. *Outside of the design economy, what occupations are design-skilled?*

3c. *How many businesses are in the design industries?*

4. Value

4a. *How much employment is sustained by: (a) design occupations in the design industries, (b) non-designers in the design industries, (c) design occupations outside the design industries, (d) other design-skilled workers?*

4b. *What GVA is created by each of these occupation groupings?*

4c. *What exports are generated by these occupation groupings?*

4d. *How productive are these categories of workers?*

4e. *To what extent are the GVA and export contributions of design-skilled workers attributable to design?*

5. The future

5a. *How have the employment, GVA and export contributions of design evolved between Design Economy 2018 and Design Economy 2021?*

5b. *What more ambitious growth scenarios can be envisaged over this timescale with (a) enhanced public understanding of design, (b) improved private sector utilisation of design, (c) strengthened public sector deployment of design?*

3.

Methods – high level

1. Intent

1. What are the attitudes, motivations and intentions of designers, design firms, and their clients, in relation to their economic impact and ‘good growth’?

Good growth might be conceived as growth that reduces the environmental and social problems of the UK – or, at least, does not exacerbate them. Therefore, this research question overlaps with the surveying on intent contained our methodology on the environmental and social value of design and will be answered through that surveying.

Equally, designers may have their own understandings of good growth and how their practices relate to them. Therefore, it is suggested that an open question be included in the business surveying of designers outlined in Paper 3 that asks them how they understand the concept of good growth and the relationship of their work to this understanding. Word cloud analysis could be applied to these responses to identify common themes and terminology across designers. This would generate a design-based definition of good growth.

2. Action

2a. What design practices and skills are used across the UK economy and how pervasive are these skills and practices?

2b. What occupations are sufficiently focused on these practices and skills that they can be deemed design occupations and how does this grouping of occupations (a) map on to SOC codes and (b) differ, if at all, from the SOC codes considered design occupations in Design Economy 2018? What are the future occupations/ growing sectors in which design will be sufficiently practised to be deemed a design occupation?

2a. will be answered by mapping between (a) design skills and practices reported on LinkedIn² and (b) LinkedIn occupation categories and SOC occupation categories – combined with (c) ONS data on numbers employed within these SOCs.

Alternatively, if this approach is too costly and/or time-consuming, another approach would be to update the analysis used by the Design Council in *Designing the Future Economy* (2017). This has the advantage of being largely based on ONS data but assumes a consistency between the US and UK labour markets and uses of design, due to a key methodological input to this 2017 study.

2b. will be answered by an update to the definitions applied to *Design Economy 2021*, building on the draft definition developed in the *Introductory Paper*. In terms of future trends for design occupations, these can be assessed by comparing change in the basket of occupations attributed to design in *Design Economy 2021* and *Design Economy 2015/2018*: Do these suggest any trends (i.e., kinds of occupations that are becoming more involved with design)? Given these trends, what other kinds of occupations may be likely to become design occupations in future?

If LinkedIn analysis is utilised in answering 2A, this will provide further insight relevant to these questions. This will provide a basis for comparing (a) skills reported by those in design occupations, (b) skills reported by those in other occupations. Those in other occupations that have similar skill bundles to those in design occupations might be considered candidates to be reclassified as design occupations. Equally, if 2A is answered by repeating the methodology in *Design Council in Designing the Future Economy* (2017), another kind of insight into this question will have been

² Labour market penetration of LinkedIn is high, with 762 million LinkedIn accounts across the world. In most developed world economies, the proportion of workers with LinkedIn profiles is high.

generated. Change in results between 2017 and 2021 will provide an indication of whether the occupations bundled as design occupations should be revised.

3. Impact

3a. Given this grouping of design occupations and their concentration across the industries of the UK economy, which industries form the design industries and what mix of industries and occupations forms the design economy?

3b. Outside of the design economy, what occupations are design-skilled?

3c. How many businesses are in the design industries? And how have births and deaths of businesses in the design industries evolved?

3a. Building on the definition of design outlined in the Introductory Paper, a review of the current list of design occupation SOC codes will be undertaken. This will produce taxonomies for analysis of: design occupations, design industries, design skills, design-skilled occupations, design-skilled industries that map onto ONS SIC and SOC codes.

3b. The design economy is formed by design occupations (both inside and outside the design industries), with the design industries also including non-designers in the design industries. Occupations that are design-skilled are those outside of the design economy that, nonetheless, utilise design skills – with this utilisation of design skills either being assessed by updating the Designing the Future Economy (2017) or LinkedIn analysis (as per 2A).

3c. Once the design economy is defined (as per 3A), the number of businesses contained within this definition will be quantified via the UK Business Counts, a public version of the InterDepartmental Business Register (IDBR) available from Nomis (ONS). Separately, DCMS have explored and gathered data on births and deaths of creative businesses. This covers businesses in the design industries and these data are the best source of insight on births and deaths of these businesses.³

4. Value

4a. How much employment is sustained by: (a) design occupations in the design industries, (b) non-designers in the design industries, (c) design occupations outside the design industries, (d) other design-skilled workers? And who benefits from this employment (Equality, Inclusion, Diversity, EDI)?

4b. What GVA is created by each of these occupation groupings?

4c. What exports are generated by these occupation groupings?

4d. To what extent are the GVA contributions of design-skilled workers attributable to design?

4e. Innovation is important to unlocking value. How prevalent is innovation among the design industries?

4f. What skills shortages prevent value being released by design?

4a: Employment estimates will be taken from the Annual Population Survey (APS) in line with those definitions.

There is an overlap with EDI issues as covered within our business paper (Paper 3). In that methodology issues of EDI by inquiring into who is designing (the individual) and where they are based (organisationally, geographically) as part of the survey: do some groups, organisations, or regions have better access to design than others?

These survey results will be analysed to estimate employment outcomes within the design economy based on EDI characteristics.

In addition, the Annual Population Survey will be used to gather data on design occupations, with these data including:

- Level of qualification
- Weekly salary
- Type of employment (e.g., full or part-time)
- Demographics of designers (including age,

³ <https://www.gov.uk/government/statistics/dcms-sectors-economic-estimates-business-births-and-deaths>

gender, ethnicity, class, disability, religion)

- Level of seniority within the organisation that employs those in these design occupations

These data will be analysed through time and by geography:

- Trend analysis of the above (2009 – 2021) using existing Design Economy data
- Variation in weekly salaries by design occupation by UK regions and countries.

4b: The Annual Business Survey (ABS) published by the ONS provides GVA estimates and will be used to estimate the GVA contribution of the design industries. It is necessary to add to this (a) the GVA contribution of designers outside the design industries but within the design economy, (b) the GVA contribution of others that are design skilled.

In respect of (a), an estimate of the contribution to GVA of designers employed outside design industries will be based on their share of gross earnings (derived from the Annual Population Survey, APS, published by the ONS).

Similarly, in respect of (b), the APS can also be analysed in this way to derive the GVA contributions of those that are design skilled – but there remains a consideration as to what proportion of their GVA contributions should be attributed to being design skilled (as per 4D).

4c. Export estimates are usually taken from the ONS International Trade in Services (ITIS) data and the UN Commodity Trade Statistics database (Comtrade). As far as possible, these data sources will be applied to the various definitions used in this economic analysis. In addition to these export statistics, the competitiveness of different countries in relation to design can be assessed in terms of numbers of design registrations. Beyond export statistics, it makes sense to assess design registrations in the UK against a range of comparable countries using the data maintained on these registrations by WIPO.

4d. Productivity estimates will be derived by dividing GVA contributions by employment within each of the relevant SOC and SIC code groupings. This will generate rates of annual GVA output per worker grouping and these rates of annual GVA output will be compared against an economy-wide average. The extent to which GVA output per worker is higher than the economy-wide average for those with design skills will be assessed. In addition, the extent to which any GVA premium correlates with extent of design skills will be assessed, i.e., where more design skills are prevalent in an occupation is it the case that these occupations generate higher GVA per worker than where fewer design skills are present? Does this GVA premium increase with prevalence of design skills?

4e. The economic contribution of workers that are design skilled but working outside of the design economy does not exclusively depend upon these design skills. Indeed, design were a more central part of their work then they would be classified as working in design occupations and become part of the design economy. It is, therefore, debateable whether all of the GVA generated by these workers should be attributed to design.

If only part of the GVA generated by these workers should be attributed to design, we need some basis for apportioning this GVA to design. An advantage of the LinkedIn-based approach in 2A is that it creates a basis for this apportionment, i.e., the GVA of these design skilled workers can be allocated to design in proportion to their total skills being design skills. If, say, workers in a particular occupation typically report 10 skills per LinkedIn profile and 5 of these skills are design skills, then 50% of the GVA generated by workers in this occupation might be attributed to design. We discuss this in more detail below under ‘detailed methodology’.

4e. Innovation activity is typically measured using the UK Innovation Survey (UKIS), a leading source of information on business innovation in the UK. The most recent UKIS data was published in January 2021 and it, therefore, provides a recent insight into innovation by UK businesses. The UKIS is the UK’s contribution to the Europe-

wide Community Innovation Survey (CIS), and is conducted following the guidelines set out in the Organisation for Economic Co-operation and Development (OECD) publication known as the Oslo Manual (OECD 2005). This manual maps a range of concepts to innovation and UKIS assesses the prevalence of these concepts among UK businesses. Some of these concepts are:

- ‘Innovation active’ firms are those which have introduced a new or significantly improved product (good or service) or process, engaged in innovation projects not yet complete or abandoned, and/or introduced new and significantly improved forms of organisation, business structures or practices and marketing concepts or strategies.
- ‘Broader innovators’ are firms that are ‘innovation active’ and/or which have invested in areas such as internal research and development, training, acquisition of external knowledge or machinery and equipment linked to innovation activities.
- ‘Wider innovators’ are those firms which have introduced new and significantly improved forms of organisation, business structures or practices and marketing concepts or strategies.

Analysis of UKIS will enable:

- The prevalence of these innovation concepts in the design industries to be assessed against the rest of the economy.
- The rate of adoption of these innovation concepts in the design industries to be assessed by tracking their incidence over a series of UKIS publications.

4f. The UK Employer Skills Survey (ESS) is a biennial UK-wide survey of businesses, providing a detailed picture of training, vacancies, skills gaps, and investment in training. Each survey has a sample of around 90,000 UK establishments with two or more people working at them.

The ESS allows the cost of skills gaps to be

estimated. This is done by quantifying the number of skills shortage vacancies in the design economy and the number of people not fully proficient in their current jobs in design industries, and multiplying these by estimates of GVA per head.

5. The future

5a. How have the employment, GVA and export contributions of design evolved between Design Economy 2018 and Design Economy 2021?

5b. What more ambitious growth scenarios can be envisaged over this timescale with (a) enhanced public understanding of design, (b) improved private sector utilisation of design, (c) strengthened public sector deployment of design?

5a. Percentage change in the Employment, GVA and Exports contributions of design between Design Economy 2018 and Design Economy 2021 will be assessed. A major challenge in this historic assessment is COVID-19. One approach would be to base Design Economy 2021 on data that predates COVID-19 (i.e., data from 2019 or earlier – if required due to data availability). As much of the data in Design Economy 2018 derives from 2016, this would assess percentage change over the 3 years between 2016 and 2019. In some cases, more recent data will be available but the impact of COVID-19 upon this more recent data is more uncertain. Not least because of the uncertainties created by COVID-19, we do not propose any future projects on the economic impact of design – but Design Economy 2021 will add the time series of data building up on the historic performance of design.

5b. We do not propose to think about the future in terms of quantified projections for the economic impact of design but through a qualitative and structured process known as a Delphi.

This process will gather insight from the experts that form part of the stakeholder consultation plan for Design Economy 2021, with the aims of refining

thinking about the future.

There are 7 steps to this process:

- Step 1: Define the question
- Step 2: Appoint a facilitator and engage the panel
- Step 3: Gather and consolidate first round responses
- Step 4: Identify the most important ideas
- Step 5: Rank the most important ideas
- Step 6: Review the ranking and identify priority issues for the project
- Step 7: Explore the ranking in a workshop with the panel

Define the question: This might overlap with the social and environmental themes of Paper 1 (e.g., How can design continue to grow its economic impact on the UK while also maximising the social and environmental benefits of design?) or with the geographic distribution themes of Paper 6 (e.g., How can design contribute to strengthened economic growth in all parts of the UK?) or both (e.g., How can design continue to grow its economic impact on the UK while also maximising the social and environmental benefits of design?). In terms of linkages to other papers, it may also be that learning from the Delphi helps to improve the surveying included in Papers 3 (Business Understanding), 4 (Public Sector Understanding) and 5 (Public Understanding).

Appoint a facilitator and engage the panel: The facilitator should come from the research team delivering Design Economy 2021 and the panel from the stakeholders to be consulted for Design Economy 2021.

Gather and consolidate first round responses: The first round is comparable to a brainstorm. Panel members will be invited to submit their

initial responses – say 8 to 10 ideas each – to the project question. This will generate around 150 ideas. Review all the responses and remove any duplicates.

Identify the most important ideas: Send the full set of ideas back to all panel members and ask each one to identify their top 10. Participants will not rank ideas at this stage, they should simply identify them. Review the responses and identify which ideas appear in the top 10 most often. These are the most important ideas that go forward to the next stage.

Rank the most important ideas: Send the list of most important ideas back to the panel and now ask them to rank them. Ranking is done against two factors that relate to the broad objectives of the project. These factors will depend on the question being applied to the Delphi but might be (a) importance to improving economic, environmental and social outcomes across the UK and (b) how urgently it requires policy intervention. Each panel member, therefore, assigns a score to each idea that reflects its relative importance (1= least important, 10 = most important) and urgency (1= least urgent, 10 = most urgent).

Review the ranking and identify priority issues for the project: The ranking exercise will highlight some significant differences of opinion about what is most important and what is most urgent. One way to visualise this is to map each issue in a matrix that combines level of agreement with both ranking dimensions.

Explore the ranking in a workshop with the panel: Conduct a short workshop with the panel (and/or others) to present the findings (including the matrix) and explore the factors underlying significant differences of opinion.

4.

Detailed methods

This section provides additional detail on some of the more challenging parts of the economic method. These parts are:

- Identifying and quantifying those workers with design skills and practices operating outside the design economy (Research Question 2a and 3b)
- Apportioning the GVA contribution of workers with design skills and practices outside the design economy to design (Research Question 4e)

In our cross-cutting paper, we note that while the Design Council has a clear list of defined technical design skills⁴, there is not, at present, a comprehensive or generally accepted list or typology of design practices that incorporates all design disciplines. We suggest, in our cross-cutting paper, that this could be developed in partnership with expert practitioners from a range of disciplines.

Moreover, Design Council measurement of design skills is grounded in the US Department of Labor's O*NET database. This assumes that the skills profile of US occupations approximates to the skills profile of UK occupations. By mapping UK SOC to US SOC, the most important skills associated with the design occupations⁵ were identified. This identified 13 skills of above average importance to design occupations. The presence of these 13 skills across other occupations in the UK economy was then assessed, with those occupations in which these skills are utilised being classified as design skilled.

Workers report skills and practices on LinkedIn. Reviewing these skills and practices against expert practitioners from a range of disciplines has the potential to create a typology of design skills and practices that is grounded in the UK labour market, rather than the US.

In turn, further analysis of LinkedIn would allow those in roles that benefit from design skill and practices to be quantified. This would replicate the analysis of Designing the Future Economy but grounded in an analysis of the UK labour market – both in terms of how design skills and practices are categorised and in terms of how they are quantified.

This LinkedIn analysis would also (a) allow the concentration of design skills and practices within design occupations to be compared with other occupations, including those that are design skilled, (b) create a basis for apportioning the GVA contributions of design skilled workers to design.

Based on (a), it may be that the basket of design occupations – as illustrated in the table below – needs to be updated. In turn, this may restructure the occupations and industries allocated in the subsequent tables to design industries (those with 30% of more workers in design occupations), design skilled occupations (occupations with design skills but less intensive utilisation of design skills and practices than design occupations), and design active industries (those with 30% or more workers in design skilled occupations).

The basis for (b) – i.e., apportioning the GVA contributions of design skilled workers to design – is grounded in the proportion of skills and practices reported by these workers that are design skills and practices.

Figure 1: Design occupations

Source: Design Council (2018)

⁴ See Design Council, *Designing the Future Economy* (2017)

⁵ For further information on SOC codes related to design, see Design Council, *Design Economy 2018* (2018).

SOC	SOC Description	Example Designer
2121	Civil Engineers	Building Engineer, Structural Engineer
2431	Architects	Architect, Architectural Consultant, Landscape Architect
2432	Town Planning Officers	Planning Officer, Town Planner
2435	Chartered Architectural Technologists	Architectural Technologist
3121	Architectural and Town Planning Technicians	Architectural Assistant, Construction Planner
3122	Draughtspersons	Cad Operator, Cartographer
5113	Gardeners and Landscape Gardeners	Garden Designer, Gardener, Landscape Gardener
3422	Product, Clothing and Related Designers	Fashion Designer, Product Designer, Interaction Designer
2473	Advertising Accounts Managers and Creative Directors	Advertising Manager, Creative Campaigner, Brand Identity
5211	Smiths and Forge Workers	Blacksmith, Farrier
5411	Weavers and Knitters	Carpet Weaver, Knitwear Manufacturer
5441	Glass and Ceramics Makers, Decorators and Finishers	Glass Blower, Potter
5442	Furniture Makers and Other Craft	Antiques Restorer, Cabinet Maker
5449	Other Skilled Trades Not Elsewhere Classified	Engraver, Goldsmith
2135	It Business Analysts, Architects and Systems Designers	Business Analyst, Systems Analyst, Technical Architect
2136	Programmers and Software Development Professionals	Database Developer, Games Programmer, Software Engineer
2137	Web Design and Development Professionals	Internet Developer, Web Designer, User Interface Designer
5414	Tailors and Dressmakers	Fabric Cutter, Tailor
3411	Artists	Illustrator, Portrait Painter, Sculptor
3421	Graphic Designers	Graphic Artist, Graphic Designer
2122	Mechanical Engineers	Aerospace Engineer, Automotive Engineer
2126	Design and Development Engineers	Design Engineer, Research and Development Engineer
2129	Engineering Professionals Not Elsewhere Classified	Metallurgist, Project Engineer

Figure 2: Design intensive industries

Design Subsector	SIC	SIC Description	Example Design Business
Architecture and Built Environment	71.11	Architectural Activities	Eco Design
Design (Clothing)	14.19	Manufacture of Other Wearing Apparel and Accessories	Accessories
Design (Craft)	23.41	Manufacture of Ceramic Household and Ornamental Articles	Ceramic Tableware
	32.12	Manufacture of Jewellery And Related Articles	Jewellery or Watches, Production of Precious Stones
Design (Digital)	58.21	Publishing of Computer Games	Computer Game Design and Publishing
	58.29	Other Software Publishing	Software Publishing
	62.01	Computer Programming Activities	Designing Structure and Content of Software, User Interface Design
Design (Multidisciplinary)	74.10	Specialised Design Activities	Fashion Design, Sustainable Design, Industrial Design
Design (Product/ Industrial)	16.29	Manufacture of Other Products Of Wood Etc	Furniture Design
	26.40	Manufacture of Consumer Electronics	Electronic Home Entertainment Equipment

Source: Design Council (2018)

Figure 3: Design-skilled occupations

SOC 2010	SOC Description	Example Job Titles
1122	Production Managers and Directors in Construction	Building Services Manager, Construction Manager
1136	Information Technology and Telecommunications Directors	It Director, Telecommunications Director
2123	Electrical Engineers	Electrical Engineer, Power Engineer
2124	Electronics Engineers	Avionics Engineer, Broadcasting Engineer
2127	Production and Process Engineers	Chemical Engineer, Industrial Engineer
2133	IT Specialist Managers	Data Centre Manager, IT Manager
2139	Information Technology and Telecommunications	Professionals N.E.C. IT Consultant, Software Tester
2434	Chartered Surveyors	Quantity Surveyor, Surveyor
2436	Construction Project Managers and Related Professionals	Project Manager (Building Construction), Transport Planner
2461	Quality Control and Planning Engineers	Planning Engineer, Quality Assurance Engineer
3114	Building and Civil Engineering Technicians	Civil Engineering Technician, Survey Technician
3116	Planning, Process And Production Technicians	Process Technician, Production Controller
5214	Metal Plate Workers and Riveters	Boiler Maker, Metal Plate Worker
5315	Carpenters and Joiners	Carpenter, Joiner, Shop Fitter
5419	Textiles, Garments and Related Trades N.E.C.	Embroiderer, Hand Sewer
5421	Pre-Press Technicians	Composer, Pre-Press Technician
5443	Florists	Floral Designer, Florist

Figure 4: Design-active industries

SOC 2007	SOC Description	Example Job Sectors
16.23	Manufacture of Other Builders' Carpentry and Joinery	Manufacture of Wooden Goods for the Construction Industry
18.11	Printing of Newspapers	Printing of Newspapers
23.49	Manufacture of Other Ceramic Products	Manufacture of Ceramic Pots, Jars and Similar Articles
25.73	Manufacture of Tools	Manufacture of Knives and Cutting Blades For Machines, Manufacture of Hand Tools, Manufacture of Saws and Saw Blades
27.52	Manufacture of Non-Electric Domestic Appliances	Manufacture of Non-Electric Space Heaters, Cooking Ranges, Grates, Stoves, Water Heaters, Cooking Appliances
31.02	Manufacture of Kitchen Furniture	Manufacture of Kitchen Furniture
32.13	Manufacture of Imitation Jewellery and Related Articles	Manufacture of Jewellery Made From Base Metals Plated with Precious Metals, Manufacture of Jewellery Containing Imitation Stones
32.20	Manufacture of Musical Instruments	Manufacture of Stringed Instruments, Wind Instruments, Percussion Musical Instruments, Electronic Musical Instruments
42.99	Construction of Other Civil Engineering Projects N.E.C.	Construction of Refineries and Chemical Plants, Construction of Outdoor Sports Facilities
43.32	Joinery Installation	Installation of Doors and Windows, Installation of Fitted Kitchens, Built-In Cupboards, Staircases
46.64	Wholesale of Machinery for the Textile Industry and of Sewing And Knitting Machines	Wholesale of Manual and Computer-Controlled Sewing and Knitting Machines

SOC 2007	SOC Description	Example Job Sectors
62.02	Computer Consultancy Activities	Planning and Designing Of Computer Systems Which Integrate Computer Hardware, Software and Communication Technologies and Related User Training
62.03	Computer Facilities Management Activities	On-Site Management and Operation of Clients' Computer Systems or Data Processing Facilities, and Related Support Services
62.09	Other Information Technology and Computer Service Activities	Computer Disaster Recovery Services, Installation (Setting-Up) of Personal Computers, Software Installation Services
71.12	Engineering Activities and Related Technical Consultancy	Engineering Design For Industrial Process and Geophysical, Geologic and Seismic Surveying, Architectural Engineering Services, Drafting Services
81.30	Landscape Service Activities	Planting, Care and Maintenance of Parks and Gardens
90.03	Artistic Creation	Sculptors, Painters, Cartoonists, Engravers, Etchers etc., Writers
95.24	Repair of Furniture and Home Furnishings	Reupholstering, Refinishing, Repairing and Restoring of Furniture and Home Furnishings Including Office Furniture

Source: Design Council (2017)

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Credits

Author

Jonathan Todd is Chief Economist at BOP Consulting. He has over a decade's experience in impact assessment and evaluation, and high-level policy experience, particularly within the cultural and creative sectors.

About BOP Consulting

BOP is a research and strategy consultancy specialising in culture and the creative industries. Over 20 years it has supported government bodies, leading arts and cultural organisations, property developers and international agencies through over one thousand assignments resulting in strategies, programmes and impact.

About the Social Design Institute, University of the Arts London

The Social Design Institute is one of UAL's new institutes. Its mission is to develop and use research insights to change how designers and organisations go about designing, resulting in equitable and sustainable outcomes. Its focus areas are the intersection of design and value, systems and public policy through original research, knowledge exchange and collaboration.

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