Methodology

The source of information for each of the data sets included in the UK Experience Economy (EE) Dashboard is listed below:

- Data about the number of active EE companies registered at Companies House was derived from the register of UK businesses hosted by Companies House.[1] This was computed by summing the number of companies from Companies House that have a SIC code in scope.

- Data about the number of active EE companies paying VAT/PAYE as represented by Nomis[2] was computed, similar to the total active EE companies, by summing the number of companies from Nomis that have an SIC code in scope.

- Data about primary EE companies as a proportion of all companies registered was calculated as follows: the percentage of companies with EE SIC codes as a percentage of all companies registered within each local authority post code. The list of SIC codes in scope is included in Appendix 2.

- Data about representation of EE companies by sector was derived from Companies House and categorises businesses according to their wider sectoral representation (as defined by DCMS and illustrated in the figure in Section 2.2 of the main report. When reading this pie chart, it is important to note that some company types fall into more than one category. For example, museums (SIC 91020) fall into the tourism, cultural, and creative sectoral groupings.

- Data about the estimated annual turnover of all EE companies was derived from Nomis datasets. Data in Nomis is presented in turnover bands as follows: 0 to 49, 50 to 99, 100 to 199, 200 to 499, 500 to 999, 1,000 to 1,999, 2,000 to 4,999, 5,000 to 9,999, 10,000 to 49,999, 50,000+ (thousands). The data presented demonstrates the full range of information included in the bands and the solid line represents the mean turnover computed by multiplying the number of companies in each band by the midpoint of the band (except the maximum, which uses the base value), and summing these over all SIC codes in scope. The upper estimate is computed using the maximum value for each band and, similarly, the minimum value is computed using the smallest value in each band.

- Estimated employee count across all EE companies was derived from Nomis data sets. Data in Nomis is presented in employee bands as follows: Micro (0-9), Small (10-49), Medium (50-249), Large (250+). The data presented demonstrates the full range of information included in the bands and the solid line represents the mean cumulative employee count computed by multiplying the number of companies in each band by the midpoint of the number of employees in each band (except the maximum, which uses the base value of 250), and summing these over all SIC codes in scope. The upper estimate is computed using the maximum value for each band, and similarly the minimum value is computed using the smallest value in each band.

[1] Companies can list up to four SIC codes when they register at Companies House. 86% of all businesses include only one SIC code when they register. Businesses with more than one SIC code are allocated to the first SIC code they list only.

[2] https://www.nomisweb.co.uk/

- The estimated distribution of freelancers across all EE sectors. This data is derived from several sources: EMP14: Employees and self-employed by industry from the ONS, and estimates of the population for the UK, England and Wales, Scotland and Northern Ireland from the ONS and Companies House data. As the data is given at different granularities (i.e. Companies House data can be computed per local authority, and the freelancers data is national per top level SIC code (T)), the estimate of freelancers seeks to bridge these granularities into an estimate per area. We make the assumption that the number of freelancers in a region is correlated with the population of that region (pop). The estimate for the number of freelancers (F) in a sector (S) in a local authority (LA) can then be computed as $F(S, LA) = \sum_i^{|T|} F(i) \frac{pop_{LA}}{pop_{UK}} \left[\frac{\sum_j^{N_{EE}} \mathbb{I}_{SIC}(i,j)}{\sum_j^{N_{Total}} \mathbb{I}_{SIC}(i,j)} \right]$, where $\mathbb{I}_{SIC}(i,j)$ is an indicator function that returns 1 if the j'th company has a SIC code in the i'th top level SIC code and 0 otherwise, $F(i)$ is the number of freelancers in a top level SIC code from the ONS data, N_{EE} is the number of EE companies in the total authority, and N_{Total} is the total number of companies in the local authority.

- The operating age of EE companies over the previous 36+ months was calculated from Companies House data by summing the number of companies whose incorporation date fell within a set of six month blocks, i.e. $OA_t = \sum_i^N \mathbb{I}(i,t)$ where the summation is over all N companies with SIC codes in scope, and computes the number of companies with an operating age that falls within a time period $t \in [t_{min}..t_{max}]$ (t_{min} and t_{max} being the minimum and maximum of a six month period respectively) where $\mathbb{I}(i,t)$ is an indicator function which returns 1 if the incorporation date of the i'th company is in the range $[t_{min}..t_{max}]$ and 0 otherwise.

A number of indicators were developed to understand the current state of the EE within a local authority, and to allow for comparisons between local authorities. As each indicator has different units and substantially different magnitudes, this makes naive comparison difficult. Therefore, we compute z-scores for each indicator: $ZScore = \frac{x-\mu}{\sigma}$, where x is the indicator of interest μ is the average value of that indicator computed nationally, and σ is one standard deviation of the indicator, again computed nationally. This has the properties that a score of 0 is the national average, and by definition half of the local authorities will have less than the average score, and half higher. This means local authorities can be compared between each other and compared to the wider region.

The following table (Table A5) lists the indictors, how they are computed, what data sources they use, and the rationale for each indictor. This table uses the following symbols: N_x refers to the number of companies with some attribute x, subscript EE means 'relevant to the Experience Economy' as per the SIC code definition, subscript $Total$ means the total number of the quantity, the subscript CH refers to data coming from Companies House and the subscript $NOMIS$ mean that data is coming from Nomis.

Table A5 – Computation method for indicators included in recovery index

Indictor	Rationale	Data Source(s)	Method of computation
Total employees in EE-related jobs	More employees could mean a thriving EE, with the caveat that there is more job risk	Nomis	$\frac{Employees_{EE}}{Employees_{Total}}$
Cumulative turnover of EE-related sectors	More turnover could mean a thriving EE, with the caveat that there could be more financial risk	Nomis	$\frac{Turnover_{EE}}{Turnover_{Total}}$
EE business birth rate	Indicates renewal and links to networks	Companies House	OA_t, where $t = [0..12]$ being the 12 previous months
EE businesses mean number of operating years	EE consisting of newer companies may indicate either rapid growth or limited longevity of EE companies	Companies House	$\frac{\sum_i^{N_{CH}} A(i)}{N_{CH}}$ where $A(i)$is the age of the I'th company
VAT and/or PAYE-paying businesses	Indicates established and surviving companies, and shows longevity of the EE businesses	Nomis and Companies House	$\frac{N_{NOMIS}}{N_{CH}}$
Number of stay and day visitors versus number of residents	Incoming spend, with the caveat that the data lags by 18 months	VisitBritain, Tourism NI, ONS	$\frac{Visitors}{Residents}$
Resident spend on EE activities per year	Indicates residents' interest in experiences, with the caveat that this is extrapolated from a regional picture	Companies House, ONS	$\sum_i^{\lvert C\rvert} C(i)\alpha \left[\frac{\sum_j^{N_{EE}} \mathbb{I}_C(i,j)}{\beta}\right]$ where C is the set of resident spends, $\mathbb{I}_C(i,j)$ is an indicator function that returns 1 if the j'th company has a SIC code associated with the i'th spend and 0 otherwise. α is a scaling constant that scales this spend to be yearly and β is a constant that contains the average number of companies in local authorities
Staying visitor spend per 24 hours	Another estimate of incoming spend, again with the caveat that the data lags by 18 months	GB Tourist Annual Report	From report
Prevalence of digital businesses	Estimate of digital capacity in the local authority	Companies House	Inner product of a vector containing the number of companies in each primary EE sector and a weight

Indictor	Rationale	Data Source(s)	Method of computation
			vector of digital for each sector: $\begin{bmatrix} N_{Creative} \\ N_{Digital} \\ N_{Cultural} \\ N_{Tourism} \\ N_{Sports} \end{bmatrix} \begin{bmatrix} 0.9 \\ 1 \\ 1 \\ 0.5 \\ 0.5 \end{bmatrix}^T$ The weight vector is heuristically estimated

Limitations of approach

The following limitations should be borne in mind when reviewing the information in the Dashboard.

Testing of recommendations and digital tools

The digital tools, including this dashboard, would benefit from further testing with the targeted local authorities and businesses in order to assess usefulness.

There is scope for assessing the impact of the outputs of this project after a certain period of time from its development and implementation; however, this would require a timeframe, team and resources wider than those available for this project.

Shortcomings of SIC codes as a mechanism for measuring the EE

Covid-19 has highlighted for the first-time significant issues regarding the EE – establishing the position of the EE and significant challenges faced during Covid-19 – exacerbated by a number of outdated mechanisms including SIC codes. The SIC code system is widely used to quantify sectoral inputs within economic GVA studies. However, it has been noted by others (NESTA, 2018;[3] Organisation for Economic Co-Operation and Development, 2020[4]) that the SIC system has limited applicability for wider creative and cultural sectors.

Limitations noted by these projects and our own are listed below.

- The SIC system was initially introduced in the UK in 1948. Although there have been subsequent updates (most recently in 2007), many of the codes are more suited to an economy focused on manufacturing rather than service industries, complicating the identification of organisations engaged in the delivery of services (such as the development of AI technologies) and much less experiences.

- SIC codes divorce the goods and services created by businesses from the public administration and support activities that are often essential to the delivery of those goods or services.

[3] NESTA (2018) Creative Nation: How the creative industries are powering the UK's nations and regions. Available at: https://media.nesta.org.uk/documents/creative_nation-2018.pdf

[4] OECD (2020) Webinar: Coronavirus (COVID-19) and cultural and creative sectors: impact, policy responses and opportunities to rebound after the crisis. Available at: https://www.oecd.org/cfe/leed/culture-webinars.htm#CCIs

- SIC codes allow only for the measurement of economic inputs/outputs rather than value.

- SIC codes are typically self-selected by company directors at the point in which they register a business with Companies House, the Charity Commission and/or HMRC. Businesses make a judgement on the best fit for their operation and can select up to four codes. Thus, a company that operates both a bar and a food takeaway service may enter the SIC code for both these activities. It is important to note also that a business that changes operating mode (e.g. that starts operating as a hotel and then switches to self-catered apartments) may not update its SIC code.

- The coding system captures data for all legally constituted organisations (including the self-employed) but excludes those who fall below the personal income tax threshold — up to £12,570 in 2021/22 (HM Government, 2021).

- The SIC system includes 74 codes (within specific business sub-sectors) that start with 'Other' for activities not elsewhere classified. This lacks specificity.

- The system is not well equipped to capture the nuance between what might be considered a service and an experience. For example, a board-game café might be registered as 56102, coffee bar, room or saloon (unlicensed), or 56102, tea room or shop (unlicensed), but not be identified as 93290, other amusement and recreational activities N.E.C. (not elsewhere classified).

- SIC codes do not have obvious and logical categories to include: 1) the activities of organisations tasked with the management of place – this includes destination marketing organisations, Local Enterprise Partnerships, growth hubs; 2) the activities of consumer-facing booking platforms such as Eventbrite, Airbnb, Booking.com; 3) the activities of those engaged in innovative digital development, including VR and AI.

- There are notable exclusions from the classifications – especially organisations that operate in the informal economy or those that are units of businesses registered overseas (and pay neither VAT nor PAYE salaries in the UK). These are significant and can include large swathes of activity, e.g. operators of Airbnb-style accommodation. In Barking and Dagenham, for example, the Nomis dataset reported in March 2021 that there were 10 accommodation establishments, but TripAdvisor lists 7, Hotels.uk.com 8, and Airbnb 223.

Despite these limitations, the comprehensive nature of the data combined with the fact that SIC codes can be viewed for specific geographies mean that it is the best proxy currently available to provide a baseline of the range of EE activity in the UK. Therefore, the approach taken within this project overcomes the critiques of the concept of EE that largely relate to a lack of frameworks through which it can be operationalised at a policy level. By defining which industries play a role in EE delivery and analysing their connectivity, meaningful policy interventions can be designed, and a new lens provided for use by the UK industry when evaluating the skills required, and, with this research in particular, the digital skills and provision required to sustain businesses that have experiences at their core. It also provides important insights into the significance of experiences in bringing customers back to venues and place, following a pandemic, and, as such, adds context to town-centre generation and associated narratives.