



Innovate
UK

Who are the Innovators?

An Analysis of Innovate UK Applicants
and Beneficiaries



Who are the Innovators?

Foreword By Emily Nott, Head of Equality, Diversity and Inclusion at Innovate UK

We believe that great ideas can come from anywhere. To accelerate the innovation that our economy needs to grow, the innovation ecosystem must be accessible and inclusive. This means we need to value difference, excite future Innovators, and ensure that the best innovations and ideas receive the support to succeed.

Our 2021-2025 Plan for Action for UK Business Innovation prioritises, “increasing the diversity of upcoming innovation talent and making innovation support more visible, accessible, and inclusive to all.”

To help us to start to quantify this, we have been collecting diversity data from individuals leading an Innovate UK application since Spring 2022. The first results have been published and provide the latest insight into the diversity of Innovate UK applicants and beneficiaries, as disclosed by the lead applicant.



‘Who are the Innovators?’ was commissioned before we had access to diversity data disclosed by applicants. The study covers seven financial years, from 2016/17 to 2022/23, and utilises an innovative methodology to generate proxy data which has enabled the analysis on a wealth of previously inaccessible data.

To produce the report, teams from the Innovation and Research Caucus (IRC) and Extend Ventures worked together to form a unique partnership. The study used machine learning and web scraping to determine perceived gender, ethnicity and educational background of applicants and beneficiaries. The resulting analysis provides a unique insight into the diversity of Innovate UK applicants and beneficiaries over several years and highlights some important areas.

The report has been critical to informing our actions to build a diverse and inclusive innovation ecosystem. Collaborating with partners nationwide, Innovate UK introduced No Limits in spring 2024. This digital platform streamlines the search for relevant opportunities and provides guidance on navigating innovation pathways offered by partner organisations, including skills development, training, investment, and advice.



By looking to the future with a more informed understanding we will be in a much stronger position to address the issues we have found and make improvements. We are acting on the results of this report so we can support the brilliant, talented and diverse innovators across the UK to fulfil their potential, achieve their ambitions, and drive economic growth.

The following publication is a summary of the full [‘Who are the Innovators?’ report](#), published by IRC.

Emily Nott





The people who apply for Innovate UK funding

‘Who are the Innovators?’ supports a greater understanding of the demographics of UK innovators, allowing Innovate UK and other organisations to understand where action can be taken to advance our support for an inclusive innovation ecosystem. This study explores the nature and scale of the opportunity to increase the diversity of innovators in the UK, based on Innovate UK applications and awards.

The study reports on the gender, ethnicity and educational background of Innovate UK applicants and beneficiaries. It reports on applications led by small and micro businesses with 1 to 49 employees, made between the financial years 2016/17 to 2022/23.

Like many organisations, Innovate UK faced challenges due to the historical lack of systematic data collection on applicants’ gender, ethnicity, and education.

To address this, ‘Who are the Innovators?’ employed the use of web scraping and machine learning to enable analysis of data that, at the time, was not available. Applicant characteristics are therefore as ‘perceived’ by the research team’s machine learning algorithm.

While this report represents an important step towards understanding the diversity of Innovate UK applicants and beneficiaries, it does not intend to provide a definitive portrait of the diversity of Innovate UK applicants.

Since Spring 2022, Innovate UK has been collecting data directly from lead applicants. For the latest diversity figures, as disclosed by lead applicants, please see [Innovate UK’s Diversity Data 2022 to 2023 report](#).

This report features images of innovators who have received support by Innovate UK.

Empowering diverse talent across the UK

'Who are the Innovators?' has provided an important evidence base that has influenced Innovate UK's approach to building an accessible and vibrant innovation ecosystem, one where all innovators are given the opportunity to build a career in business led innovation.



We want to empower diverse talent from across the UK:



Innovate UK support must be accessible and inclusive to innovative businesses.



The goal is to ensure equal access for everyone, support the best innovations, and leverage the diverse talent across the UK to boost productivity and growth. Understanding and improving representation and success rates of specific groups will enhance the overall quality of applications.

There is an urgent need to transform the skills and talent pipeline in the UK. Innovate UK is working with partners across the UK to open up opportunities for people to become successful in innovation.

You can join us on our journey through No Limits nolimits.ukri.org



Education

Education

The educational background of applicants was analysed using the 'Who are the Innovators?' data methodology. The analysis suggests that 35%, over a third, were educated at one of the 24 Russell Group universities in the UK.

35% of lead applicants were educated at top universities.

The Russell Group represents 24 UK universities in the United Kingdom, recognised as 'world-class' and 'research intensive'. We continue to recognise the contribution that Russell Group universities and former students have across the UK's Research and Innovation landscape.

A notable proportion of applications came from individuals educated at Oxford and Cambridge, with 9% of lead applicants from these two universities, and an additional 5% from Imperial College London (Imperial) and University College London (UCL).

Overall, 43% of funded applicants were educated at Russell Group universities, including Oxford and Cambridge with 11%, Imperial and UCL with 7% and Other Russell Group with 25%. 57% were from applicants from Other Institutions.

The findings highlight the need to engage a broader range of innovators from more diverse educational backgrounds, ensuring they have visibility and access to the opportunities available through Innovate UK.

Beneficiaries educated at Russell Group Universities



Note: 'Other Institutions' includes Innovate UK applicants and beneficiaries with educational qualifications from universities other than the Russell Group, as well as applicants and beneficiaries with no recorded qualifications. This broad categorisation was a limitation associated with the web scraping.

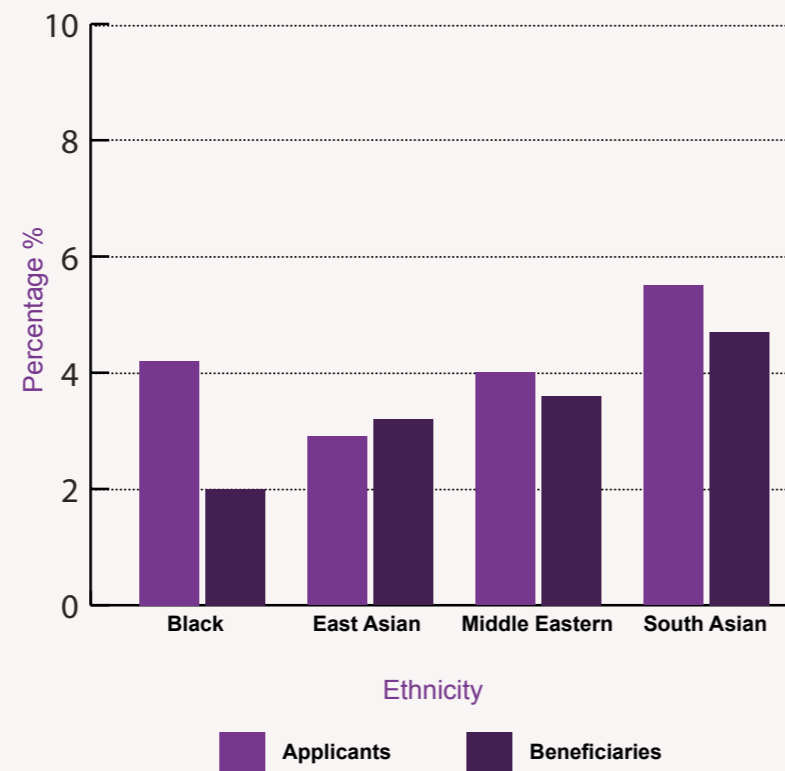


Ethnicity

Ethnicity

Based on the ethnicity perceived by the machine learning algorithm and checked by the research team, the study suggests that the majority of both the total and funded applications were led by White applicants, at 83% and 87% respectively. Applications led by perceived ethnic minority applicants accounted for 17% of total applications and 13% of funded applications.

Percentage of Applicants and Beneficiaries by Ethnic Minority Groups (excluding White Minorities)



According to the methodology used, the success rate of applications received from applicants identified as White is 17%, which is above the average success rate of 14%. Applications received from South Asian, Middle Eastern and Black applicants were found to be statistically less successful than White applicants with a success rate of 14%, 14% and 8% respectively. There is no statistically significant difference in the suggested success rate of East Asian applicants compared to White applicants.

17%

The success rate for lead applicants perceived as White.

According to the 2021 census, 80.7% of the working-age population in England and Wales were White, 10.1% were Asian and 4.4% were Black. In this regard, White applicants are over-represented and ethnic minorities as a whole are under-represented in both the percentage of Innovate UK applications and funded applications.

The challenge for Innovate UK therefore is both to encourage more applications from minoritised ethnic groups, and to address the variation in success rates between the different ethnic groups.

Note: See Innovate UK Diversity Data report 2022/23 for latest diversity figures, as disclosed by lead applicants.



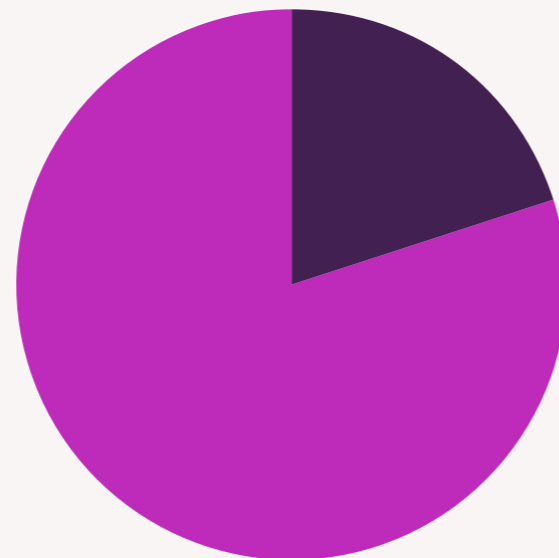
Gender

Gender

Analysis based on the perceived gender of applicants suggests that 78% of Innovate UK applications are led by men, and 22% are led by women.

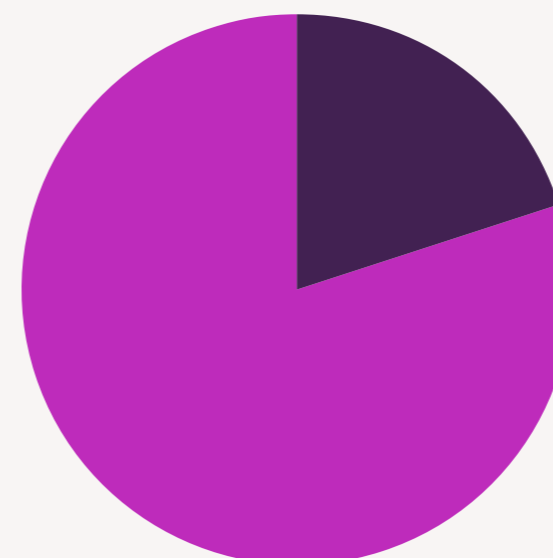
Likewise, the proportion of funded applications was perceived to be 78% from men and 22% from women.

Percentage of applicants by Gender



78% Men | 22% Women

Percentage of beneficiaries by Gender



78% Men | 22% Women

While there was a notable difference in the number of applications from men and women, the study shows that there was no significant difference in their success rate.

16% the success rate for men and women in the sample.

Note: The study collected binary gender data, with applicants classified as either appearing to be men or women. This is a limitation associated with the methodology used. See 'Who Are The Innovators? An Analysis Of Innovate UK Applicants and Beneficiaries', Innovation Research Caucus (2024) for full methodology and technical annex.

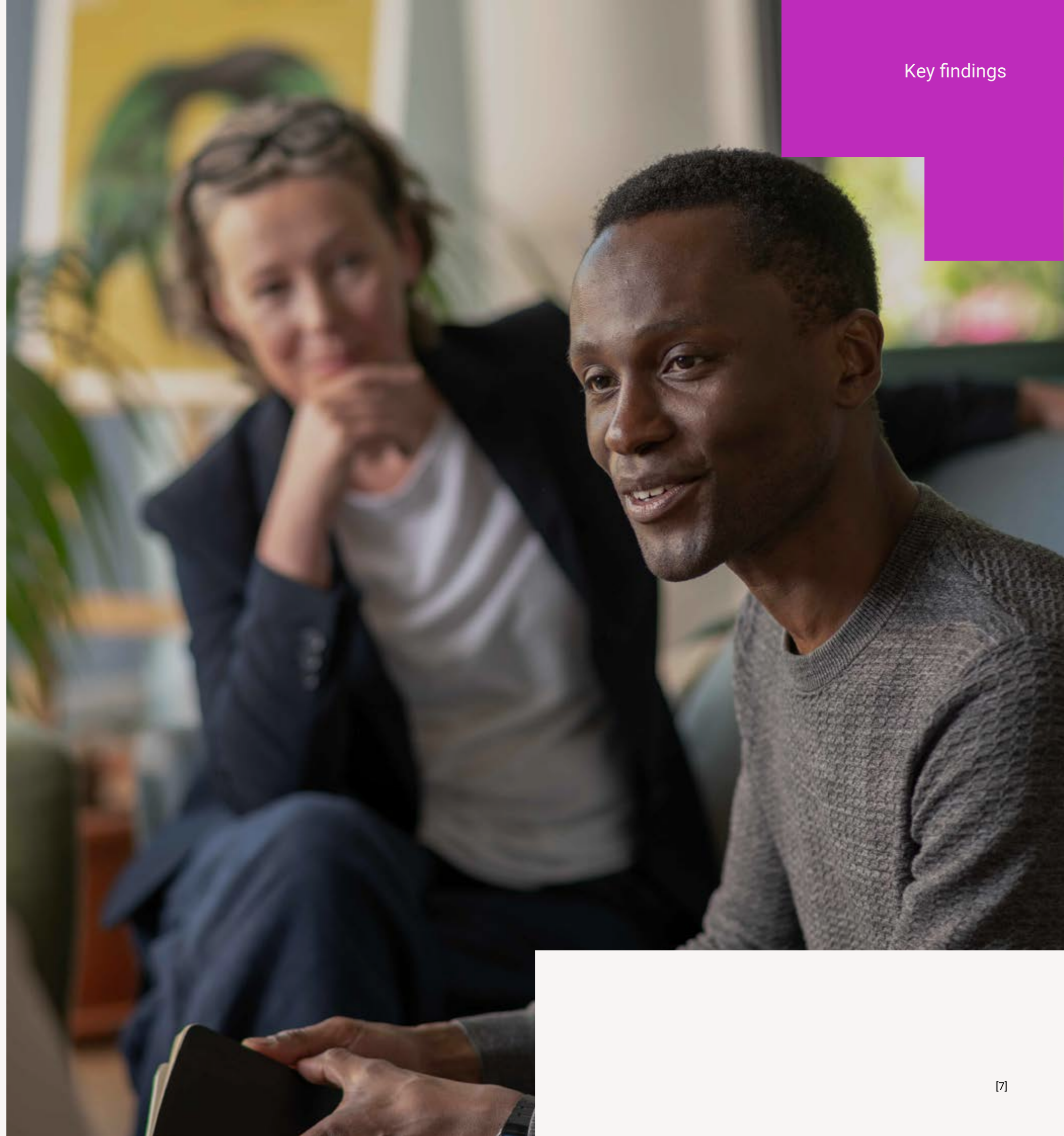
See Innovate UK's latest diversity data, including gender at ['UKRI Diversity Data'](#)

The big challenge

The intersectionality of education, ethnicity, and gender.

Intersectionality describes how discrimination against different facets of a person's identity can overlap to create barriers that are greater than the sum of their parts.

Researchers conducted this study through an intersectional lens to illustrate how each applicant's educational background, ethnicity, and gender might intersect to create multiple disadvantages which could influence their success in applying for funding. Researchers were able to apply an intersectional perspective to some combined characteristics, such as gender and ethnicity, and gender and education.



Gender and education

Researchers looked into the intersection of gender and education and its impact on the success rate of funding applications. The study suggests that applications led by men educated at Imperial College London (Imperial) and University College London (UCL) recorded the highest success rate at 22%.

22%

Men educated at Imperial or UCL had the highest success rate.

Ethnicity and gender

When analysing the intersection between gender and ethnicity, the study suggests that the majority of total and funded applications were from White men, with 65% of total and 68% of funded applications, and White women, with 18% of the total and funded applications.

While applications perceived to be from White men were found to have a success rate of 17%, the success rates of applications received from five gender-ethnicity intersecting groups were lower, including 8% for Black men, 8% for Black women, 13% for Middle Eastern men and 14% for South Asian women.



How the research was conducted

The 'Who are the Innovators?' study was commissioned by Innovate UK and conducted by Innovation Research Caucus and Extend Ventures.

The research team looked at the backgrounds of the lead applicant from 33,209 funding applications to Innovate UK from small and micro businesses with 1-49 employees between 2016/17 and 2022/23.

The study utilises a three-part research design: employing web scraping and machine learning to enable the quantitative analysis of Innovate UK funding applications, while qualitative interviews with applicants were used to understand and contextualise the findings.

The research team applied machine learning algorithms, a type of artificial intelligence (AI), to identify the characteristics of the lead applicant. This was backed by a manual check where the personal data did not match or if uncertainty relating to the match was considered too high.

There are limitations associated with the project that are important to acknowledge, given the innovative nature of the methods employed. While machine learning and web scraping are powerful tools, they are not without flaws. The web scraping methodology has limitations, including incomplete data capture and potential bias from LinkedIn-based scraping.

The approach uses machine learning to assign gender, ethnicity, and education based on scraped information, rather than self-selection, leading to 'perceived' classifications that may not accurately represent individuals' self-identifications or full educational backgrounds.

Therefore, this study provides an insight into the perceived diversity of Innovate UK applicants and beneficiaries over a number of years, rather than presenting a definitive portrait.

Note: For full details on the methodology and limitations, see 'Who Are The Innovators? An Analysis Of Innovate UK Applicants and Beneficiaries', Innovation Research Caucus (2024).

The research team looked at the backgrounds of lead applicants from Innovate UK applications, studying over

33,000

Opportunity

Opportunity

‘Who are the Innovators?’ makes it clear that many talented and innovative people either are not applying or are not receiving Innovate UK support.

We know the UK needs more innovators, from entrepreneurs to engineers, to boost future productivity and prosperity. So, we are taking decisive steps to help more innovators transform their ideas into reality, including:

- Collecting diversity data from individuals leading an Innovate UK application. We started collecting this data in Spring 2022 and have [published the first results for 2022-23](#).
- Championing women entrepreneurship and supporting opportunities for growth, whilst inspiring more women into innovation. Our latest diversity data shows that in 2023, 1 in 3 successful grant applications were led by women, up from 1 in 7 in 2016.
- Delivering targeted programmes to unlock the power of innovation skills and talent in every part of the UK. Our programmes to date have included [Women in Innovation](#), [Young Innovators](#), [Begin](#), and [Build](#).
- Embedding equality, diversity, and inclusion (EDI) as a priority area within some of our core programmes, including the Innovate UK Investor Partnership programme.
- Encouraging businesses to consider diversity and inclusion in their approach to innovation. This includes the [Inclusive Innovation award](#) and sector-specific opportunities, such as [accessible solutions for disrupted journeys](#).
- Transforming the talent and skills pipeline for innovation through [No Limits](#), which makes it easy to find relevant opportunities and navigate pathways to success in innovation offered by a wide range of UK organisations.
- Iteratively reviewing and updating our application and award process to foster inclusion at every stage. For example, a Reasonable Adjustments process was introduced in 2022 and supported 120+ applicants in the first 12 months, achieving a 90% recommendation rate.
- Continuing to build our understanding of innovators through supporting researchers such as the [EDI Caucus](#) and [Innovation and Research Caucus](#), to enable more innovators to reach their potential.

Of paramount importance is the need to continue collecting data to drive evidence-based decisions. By sharing our EDI data insights, we hope to support others across the innovation ecosystem to do similar. This will facilitate a consistent data approach that will enable greater understanding of the innovation ecosystem.

Unique partnerships

Acknowledgements

Innovate UK was delighted to form a unique partnership with Innovation and Research Caucus and Extend Ventures to pursue a bold new approach to exploring and understanding the characteristics of Innovate UK's applicants and beneficiaries.

Innovation and Research Caucus

The Innovation and Research Caucus (IRC) supports sustainable innovation-led growth by promoting engagement between the social sciences and the innovation ecosystem.

Its members are leading academics from across the social science community engaged in different aspects of innovation research.

IRC is funded by UKRI via Innovate UK and the Economic and Social Research Council (ESRC).

[About Us - Innovation Research Caucus](#)

Extend Ventures

Extend Ventures is a 100% asset-locked, not-for-profit community interest company.

Its pioneering research aims to establish an evidence-based understanding of the impact of ethnicity, socio-economic status, and/or educational background on an entrepreneur's ability to attract venture capital to UK endeavours.

Extend Ventures is committed to using big data and machine learning to diversify access to finance for underrepresented innovators and entrepreneurs.

[Visit: Extend Ventures](#)





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Contact us about diversity data
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