

DSC-28 Understanding characteristics of high growth firms

2018-04-12

Through this work the Campus is supporting the Data Enabled Change Accelerator (DECA) project led by the Department for Business, Energy and Industrial Strategy (BEIS), which aims to identify the characteristics of businesses with high growth potential.

The Campus is exploring how non-traditional data sources and data science methods can be combined with more conventional business data to help understand the characteristics and behaviours of high-growth companies. The project combines business admin data with non-traditional datasets such as geographical features and web-scraped data.

Team members

- David Pugh
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Impact

Predicting if a business has the potential to show high growth - or alternatively poor performance - is of important interest to many parties. In addition to the direct impact on the economy it can affect where and how much people invest, where people choose to work and what support structures and policies are developed and put in place.

Data science

The ability to understand the characteristics that may lead to companies showing high performance is an area of active research. These approaches tend to use more traditional datasets and methods. Non-traditional data are any relevant information gathered from sources outside the scope of current administration and collection methods, for example, data about a company from the web.

Joining several non-traditional datasets (GlassAI, retail clusters, MES) through the Inter Departmental Business Register (IDBR) to an indicator of high-growth

firms. Multiple machine learning and sampling techniques have been compared and Natural Language Processing (NLP) has been used to find topics in the text data.

Stakeholders

- Department for Business Energy and Industrial Strategy
- GlassAI
- Ordnance Survey (OS)
- Office for National Statistics (ONS) productivity team

Delivery

- [x] April 2018: Join GlassAI data with IDBR and high-growth flag
- [x] April 2018: Investigate whether quantitative GlassAI are indicative of high-growth firms
- [x] August 2018: Investigate whether qualitative GlassAI data are indicative of high growth firms
- [x] September 2018: Complete first draft of report (based on work so far)
- [x] January 2019: Publish report from phase 1
- [x] January 2019: Investigate whether MES is indicative of high-growth firms
- [x] March 2019: Publish report including work from MES

Further information

Please contact datasciencecampus@ons.gov.uk for more information.

Updates

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David Pugh published a report on the Data Science Campus website.