

# UNIVERSITY OF MANCHESTER

## Who Applies and Who Arrives

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### Introduction

My research project aimed to shed light on the UCAS application cycle for undergraduate applicants, specifically for applicants for the University of Manchester. For this, I conceptualised the UCAS application cycle as five key stages, although some other stages were occasionally relevant.

### Aims

The aim here was to analyse all the application data to the University of Manchester from the last 3 years, in order to be able to understand the applications 'funnel' – the journey from the 60,000 applicants a year to the 8,000 who enrol annually at the university. This process is shown in Figure 1, and the total numbers in the main categories are shown in Figure 2. The project also aimed to give a better indication of where applicants were from – both specifically in the UK, but also worldwide.

One of the maps created is shown in Figure 3. This was needed because the University of Manchester had no research into the details of this process – such as the stage of the application cycle that most applicants drop off at, and the demographics likely to drop off at any point. This means that the University of Manchester, thanks to the work completed, can focus more intentionally on the applicants who are more likely to enrol at the university.

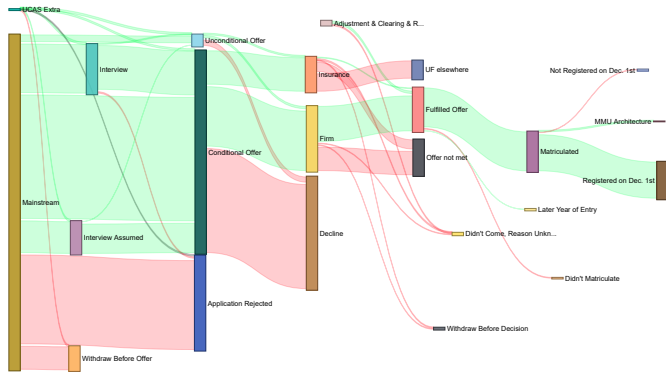


Figure 1: A sankey diagram, showing the different stages in which applicants stop being potential University of Manchester students. This is a total of the last three applications cycles, and the thickness of the bars and the flows show how many applicants passed through that route.

### Methods

The original data was vast and messy – with some applicants appearing on over ten rows of the dataset. The first task was consolidating this data into a far neater form, where each applicant had only a single row, and their entire application 'journey' was then included in that. This was all done in Excel.

This data was then imported into Power BI for the visualisations, ArcGIS for the mapping, and R for regression modelling – each of these required the data to be restructured again, with some individual diagrams requiring brand new datasets to be able to run properly, but also allowed me to do a huge range of functions with the data. Applicants applying in any method, whether Mainstream, Extra, Adjustment, RPA or Clearing, are included in the analysis when relevant – the aim was to create the most complete analysis possible by including all the applicants possible. Mature students were also included, for this same reason.

These key stages are as follows: an application being made, the University of Manchester giving an offer to the applicant, the applicant accepting the offer, the applicant meeting the conditions and fulfilling the offer, and finally enrolment.

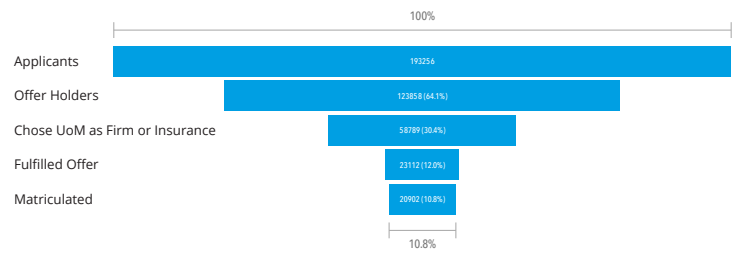


Figure 2: Funnel chart, showing the number of UCAS Mainstream and UCAS Extra applicants at each stage of the cycle from the 2016, 2017, and 2018 cycles, with the proportion of the total in brackets.

### Conclusions

The aim was to find some insight into who applies and doesn't arrive, and when their application ends – whether the application is immediately withdrawn, all the way forward to the students fulfilling their offer but never registering at the University of Manchester.

The research has discovered that over a quarter of all applicants don't receive an offer, over a third don't accept the offer, nearly one in five miss the offer, and then only around one in nine applicants enrolls at the University of Manchester – some others do not fall into these categories, but these are the key stages of the cycle.

The research also showed the influence of some variables on applicants' likelihood to continue past each stage of the cycle – applicants predicted two or more A Level grades above the course entry tariff were far more likely to get given an offer, but were also more likely to decline it, presumably as they are also applying to higher tariff institutions.

We also saw large variation in the applicant to student conversion rate between different schools. The School of Mathematics had a rate of over one in six applicants ultimately enrolling over the last three UCAS application cycles, whereas in the School of Mechanical and Aerospace Engineering, the rate was below one in twelve.

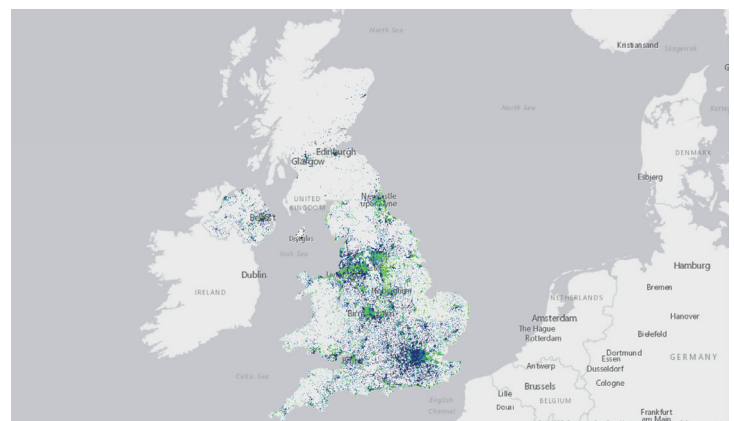


Figure 3: Map of the UK with each applicant's home postcode marked, colour coded by POLAR4 quintile. Quintile 1 is light green, quintile 5 is dark blue. POLAR4 quintile 1 means among the lowest neighbourhoods in terms of participation in higher education, quintile 5 means among the highest.