

Chapter 14

Overcoming Size and Subject Bias in Rankings: A Review of Various Trends and Bias in Data Commonly Used in Rankings and Methods to Overcome Them

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ABSTRACT

Although it is impossible to distill the complexity of a university down to a single ranking position that represents the multiple missions of a university or the different stakeholders of ranking user, rankings are here to stay. It is essential that rankings publishers are clear about their objectives and use techniques to overcome bias. This paper discusses in detail some of the trends and bias found in data used in rankings and methods that can be used to overcome bias. It also discusses the motivations behind rankings and the influence of institution size on ranking outcome.

INTRODUCTION

This chapter reflects my thoughts and opinions that I have developed over the last five years working on various rankings, in particular the Times Higher Education World University Rankings, the U.S. News Best Global Universities Rankings and the Reuters Innovative Universities rankings, for all of which I was the lead production manager. Although I am confident in the results of my work I recognize that my methods are not the only way to create a meaningful ranking and that other people may have contrary opinions. I hope that my insights will have use. My past experiences are primarily concerned with the production of “World” rankings of universities and thus my knowledge is somewhat limited to that context. I have little experience with domestic league tables, but recognize that there are many valuable resources such as league tables and university guidebooks that may be of more use, particularly for potential students or parents of students, than world university rankings. Some of the resources that I

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use from time to time are the US Department of Education's "College Navigator" (<https://nces.ed.gov/collegenavigator/>) which is a rich resource of factual information and statistics such as on campus crime rates, accreditations and varsity athletics teams. This information may help inform a decision about which university to study at. There are of course many other resources in the US and other countries. If you happen to be the parent of a student or a potential student yourself I strongly recommend that you look first to see what domestic resources might be available.

Rankings and University Missions

As discussed previously (Pratt, 2013), university rankings do not reflect the varying missions of a university. They do not take into account the different objectives of the stakeholders, and a single ranking position cannot represent the highly complex nature of universities. University rankings continue to be popular and therefore rankings publishers have an obligation to make their rankings robust and to be clear about the objectives of their rankings. In this chapter I will discuss the nature of bias in rankings and how the objective of the ranking publisher may influence their methodological choices. I will also discuss methods that can be applied to overcome bias that might be caused by a university's size, subject mix, or geographical location.

Does Size Matter?

The size of a university can have a large impact on a ranking outcome, depending on the methodologies that are used in the ranking to overcome size dependency. There are arguments to be made both for and against size dependency in rankings. On the one hand, size independent methodologies focus on "performance" or "quality", which is desirable for purposes of evaluation regardless of how big or small the university may be. However, size independent indicators may result in small institutions outperforming larger ones which may challenge existing perceptions and lead to less intuitive ranking result. A small but high performing university may have less overall impact or output than a larger university with mediocre performance. If trying to measure the impact a university has had on a system, sheer volume may be the better approach. The consequence of the use of size independent indicators may be a reduction in confidence in the ranking results and the ranking producer may become a target of criticism.

On the other hand, methodologies that reward size tend to favor large universities regardless of their performance. Volume based indicators tend towards intuitive results as larger universities are often more well known by the public. However, one can argue that volume is no indicator of performance and that one may as well measure the number of catering staff or some other irrelevant indicator that is correlated to size. As a ranking publisher, it may be tempting to utilize volume dependent indicators that produce more credible results and reduce the risk of criticism of the ranking.

Choosing size dependency or in-dependency in ranking methodologies will be influenced by the objective of the ranking publisher. The objectives of commercial publishers are to maximize the visibility of their ranking so as to market their premium services or to generate advertising revenues. Therefore credibility in the results will be a very important factor and this will likely lead them to focus on size dependent indicators. However, an entirely predictable and stable ranking is not newsworthy and a ranking publisher may welcome a certain amount of controversy to generate interest in the ranking.

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