A new way of ranking universities

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(PhysOrg.com) -- An academic at the University of Hertfordshire has challenged the way university league tables are calculated and presents a radically different way of formulating university rankings in the UK, in a paper released this month.

The paper, entitled 'A New Approach to University Rankings', published in the January edition of *Higher Education - The International Journal of Higher Education Research*, Dr. Christopher Tofallis shows an alternative way to calculate league table results by avoiding the problem of having to add together 'apples and pears' – quantities which are measured in different units.

This research could make a significant change to how universities are ranked. By using data published in The Complete University Guide, Dr. Tofallis shows a comparison to current league table calculations against his own methodology, which raises the question – are current university rankings a fair representation of UK institutions?

Dr. Tofallis said: "The paper focuses on the issue of how different measures are aggregated. All current publishers of league tables use an additive approach which includes a normalisation step to allow the data to become 'comparable'. The problem is that there are different ways of achieving this comparability, and each way leads to a different ranking."

The paper proposes a multiplicative approach to aggregation which overcomes these difficulties. The attraction of multiplying the data, rather than adding it together, means a normalisation step is not required.

The idea for this method of combining variables measured in different units comes from the way it is achieved in scientific equations.

He continues: “When the multiplicative approach is used the fact that some variables are numerically much greater than others does not matter since a rescaling of any variable (by multiplying by a positive constant) would have no effect on the rankings. For example, consider a switch from measuring expenditures in thousands of pounds to pounds; this would simply lead to a multiplication of the score by 1000 for every institution.”

Dr. Tofallis’ methodology is very general and can be applied to many other types of ranking problem, forming part of wider research that will see a similar formula applied to other large data sets.

The full paper is available now and can be viewed online at: www.springerlink.com/content/apn7h557511x7006/

Provided by University of Herfordshire