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Statistical Analysis of Academic Programmes as an Indicator of Quality: a longitudinal study of MBA candidates

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Abstract

The paper investigates programme quality issues using simple statistical techniques to analyse student grades. The data has been obtained from MBA examination boards, and includes marks for each module and for the dissertation. A range of simple statistical measures are used and findings indicate, *inter alia*, that candidates from the action learning development route significantly out perform the candidates from the DMS development route and women out perform men. This paper demonstrates the inference that may be obtained from a basic analysis of student data, which ought to be recorded in any higher education institution's management information system. Second, the data represents the first quantitative comparative study of the performance of action learning candidates versus traditional candidates at MBA.

Outline

Over the years, there have been many detailed and complex publications written on the subject of candidate assessment, the objective of this paper is to investigate programme quality issues using simple statistical techniques to analyse student grades. The data, on which this paper is based, are student grades over a five-year period from the Dearne Valley Business School MBA.

The data has been obtained from MBA examination boards, and includes marks for each module and for the dissertation. The methodology is in two parts: first, the characteristics of the MBA are investigated to determine whether it is suitable vehicle for student assessment. Second, the MBA is investigated from the viewpoint of the performance of identifiable sub-groups viz.: previous development route and gender.

The statistical methods used are:

1. Descriptive statistics
2. Visual inspection of data
3. t-tests
4. χ^2 tests
5. Discriminant Analysis
6. Principal Component / Factor Analysis

The findings indicate that:

1. The assessment structure significantly affects the distribution of student grades
2. There are moderation issues between modules
3. Candidates from the Action Learning development route significantly out perform the candidates from the DMS development route.
4. Women out perform men
5. The worst performing subgroup are ex-DMS men
6. Factor Analysis may be useful as an indicator for future development of the curriculum.

Some of the quality issues raised are recruitment, programme content and structure, moderation, audit, quality of learning, and types of assessment and assessment structures

The significance of this paper is that it shows the inference that may be obtained from a basic analysis of student data, which ought to be recorded in any higher education institution's management information system. Second, the data represents the first quantitative comparative study of the performance of action learning candidates versus traditional candidates at MBA