

Brief Reports

The Relationship Between Performance on the Graduate Management Admission Test (GMAT) and Academic Results for Graduate Management Students*

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Scores on the GMAT (Graduate Management Admission Test), and Undergraduate grade point averages, were correlated with grade point averages achieved by students taking Master of Business Administration (MBA) degrees, in order to explore the utility of the test in the process of selecting students. It was found that the correlation between GMAT score and MBA Grade Point Average (GPA) was .40 and the correlation between combined undergraduate grade point average and MBA grade point average was .47. Both of the results showed stronger correlation than overseas studies and suggested that the combined undergraduate point average and GMAT score is useful in predicting the success of students during the MBA programme.

The Graduate Management Admission Test (GMAT) was devised at Princeton University as a standardised test to predict academic success in the first year of graduate management programmes. The test is designed to measure verbal and quantitative abilities. The verbal sections attempt to measure candidates' abilities to understand and evaluate what is read, and to recognise connections of standard English. The quantitative sections test the candidates' basic mathematical skills and understanding of elementary concepts, as well as the ability to reason quantitatively, to solve problems, and to interpret data in graphs, charts, and table. The results are expressed as two subscores (one verbal and one quantitative) and an overall score. They are expressed as a standard score and as a percentile score in relation to worldwide populations. The test is administered worldwide on four occasions each year and takes three and a half hours to complete. Over 400,000 people have completed the test.

Bond (1986) described the results of four GMAT validity studies undertaken by Powers and Moss, covering 1967-1970 and 1978-1980, in which 142 business schools participated.

Bond concluded that the GMAT was the best single predictor of grade point average (GPA) in first year graduate management programmes, with GPA for undergraduate courses the second best predictor. Median correlations between GMAT score and graduate management GPA for 1978, 1979, and 1980 were .39, .39, and .36 respectively. When undergraduate GPA was combined with GMAT the median correlations became .45, .48, and .45 respectively.

Paolillo (1982) reported that in a study of 220 MBA (Master of Business Administration) graduates from 1978-1981, there was a correlation of .35 between undergraduate GPA and graduate GPA, and a correlation of .26 between GMAT and graduate GPA.

Benson (1983) concluded that there was no significant relationship between GMAT scores and graduate management GPA. He cited the results of Paolillo as explaining less than 7% of the variance in performance of MBA students. His own findings suggested that GMAT accounted for only 9% of the variance. Sobol (1984) noted the consistency of earlier studies in suggesting that only GMAT and GPA were useful predictors and produced similar results to those of other investigations.

The University of Otago has been administering the GMAT to applicants for its MBA degree since 1977. Since 1983 it has been

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administered to all applicants. The purpose of this study was to investigate whether the GMAT was useful as a predictor either by itself, or in conjunction with undergraduate GPA.

Method

The study considered the results of 164 graduate MBA students who completed the course successfully between 1978 and 1988 and for whom complete data were available. The variables considered were age upon entry to the programme, graduate status, undergraduate GPA (for graduates), GMAT score, and a combined undergraduate and GMAT score. The MBA grade point average (MBA GPA) was calculated by assigning scores ranging from 1 (D) to 10 (A+) and then calculating the mean for each individual. The GPA and GMAT were combined by multiplying the GPA by 200 and adding the GMAT score.

Results and Discussion

The correlation between age and MBA grade point average was -0.06 , $p=.44$, which was negligible. The MBA grade point average of all students was 5.97 ($SD=1.04$) the grade point average of graduates 6.04 ($SD=1.08$) and of non-graduates 5.80 ($SD=.89$). Previous undergraduate study does not therefore seem to have a significant effect upon success in studying for an MBA. The correlation between GMAT score and MBA Grade Point Average was $r(162) = .40$, $p=.0001$, accounting for 16% of the variation in performance. The correlation between combined Grade Point Average and GMAT score with MBA Grade Point Average was $r(162) = .47$, $p=.0002$, accounting for 22% of the variation in performance.

These results show a stronger correlation than in the overseas studies and suggest that the GMAT is serving a useful purpose in aiding selection decisions, particularly when combined with the previous undergraduate record.

In order to have increased confidence in the GMAT and in the combined undergraduate GPA and GMAT measure as selection criteria, it would be necessary to admit a control group of students with low scores who would ordinarily have been refused admission. Their subsequent MBA grade performance could then be measured in an attempt to validate the criteria as a means of selection. The shortage of places on the Otago MBA, and the need to accept only those most likely to

succeed, makes this impossible in practice. However, a small number of students have entered the programme with GMAT scores that are not usually acceptable. The anecdotal evidence from those involved in teaching the programme, is that they have all had enormous difficulty or failed to complete the programme. A pragmatic inference is that the relationship between the performance of those accepted and their scores on the criteria would extend to those refused admission by virtue of their performance on the criteria.

At the least the results suggest that when considering the performance of those who are selected for the MBA, the GMAT and undergraduate grade point average account for a significant portion of the differences in performance.

A possible difficulty is the extent to which the staff who are grading students during their MBA study may be influenced by their knowledge of the pre-admission scores of students accepted for the programme. In practice only the Director of the programme and members of the admission panel would have regular access to the scores. Only two or three of the eighteen papers in the programme are taught by staff from that category and so the effect of such a bias would be small.

References

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