WHAT IS A BETTER PREDICTOR OF ACADEMIC SUCCESS IN AN MBA PROGRAM: WORK EXPERIENCE OR THE GMAT?

Michael H. Deis, School of Business, Clayton State University, Morrow, Georgia 30260, (678)466-4541, MichaelDeis@clayton.edu

Reza Kheirandish, School of Business, Clayton State University, Morrow, GA 30260, (678)466-4532, rkheiran@clayton.edu

ABSTRACT

The goal of this study was to determine if work experience might be a better predictor of success in the MBA program than a Graduate Management Admission Test (GMAT) score by examining how successful students have been in an MBA program in a suburban metropolitan university. Success in the MBA program was measured by overall GPA for students completing the program. The study also examined the benefits of offering a GMAT Waiver to individuals with significant and leadership experience. Other characteristics, such as age, gender, race, undergraduate GPA and undergraduate upper division GPA were also studied. Preliminary results indicated that significant leadership and administrative work experience were a better predictor than GMAT scores in predicting the overall success of students enrolled in an MBA program. There appeared to be very little correlation between GMAT scores and the overall GPA that students received in the program. The study should be beneficial to universities considering the criteria on which to place the most emphasis when making admissions decisions. Included in the paper will be a discussion of alternatives to offering the GMAT.

REVIEW OF THE LITERATURE

In a part-time program such as the one being studied in this paper, students are often older and have more significant leadership and management work experience than students admitted to a traditional MBA program. To maximize the number of admittances and improve the retention and graduation rates, it is important that those involved with the administration of MBA programs understand the likely predictors of graduate student performance to be able to make quality admission choices (Sulaiman and Mohezar, 2006).

More and more schools have recognized that the GMAT, including the GMAT Analytical Writing Assessment (AWA), should be waived for individuals with significant work experience (Braunstein, 2009). Fish and Wilson (2009) indicated that there also are other differences in factors, such as age, in predicting graduate performance in a part-time MBA compared to a one-year MBA program. This should

be of particular interest to Clayton State University (CSU), because its 20 month program is geared towards working professionals.

Sulaiman and Mohezar (2006) stated that the majority of graduate department admission committees compare total work experience and undergraduate GPA when making an admittance decision. The article by Sulaiman and Mohezar (2006) gave six hypothesis, one of which stated: "H_1: Work experience will predict student performance." They concluded that, "Those with longer previous work experience may more readily see the relevance of the management concepts taught. Thus, they would likely perform better than those with less work experience".

Some leading schools, such as Northwestern University's Kellogg School of Management, now base their enrollment on undergraduate academic records and work experience (Jones, 2005). As Kellogg's Julie Jones indicated in a 2005 Business Week article, it does not make a lot of sense to require the Chief Financial Officer of an organization, who had an undergraduate GPA of 3.7 as an accounting major, to take the GMAT. Jones (2005) added that Kellogg places a major emphasis on the value and range of work experience that applicants can bring to the program. Many executive MBA programs now waive the GMAT exam (Gloeckler, 2005). In fact, in 2005, only 12 of Business Week's top 25 MBA programs required the GMAT. About one-third of the applicants for the North Carolina Kenan-Flagler Business School opted for a GMAT waiver instead of taking the GMAT (Gloeckler, 2005).

Among the issues that need to be addressed are the standards for granting a GMAT waiver (i.e., not requiring the GMAT) and the requirement of the Analytical Writing Assessment (AWA) when a GMAT waiver is granted. In an MBA program for working professionals, such as the one at CSU, work experience might be a better predictor of success in the MBA program than the GMAT score or undergraduate work experience (Adams, 2000). Adams (2000) also indicated that work experience appears to be a better predictor of success for MBA students than even the GMAT or undergraduate GPA. He reached this conclusion by using ANOVA analysis and pointed out that the percentage of MBA having significant work experience has risen over time.

It must be noted that, based on conflicting evidence about the GMAT as a predictor of success in MBA programs, the AACSB has stopped requiring GMAT scores for admissions into many types of MBA programs.

In addition, previous research has also shown that some characteristics such as race and gender might affect the predictive validity of GMAT (Gropper, 2007). David Gropper was the assistant dean and executive director of Auburn's MBA program when Auburn's MBA was ranked 26th of the nation's public institutions (Granger, 2005). He found that other factors, such as substantial career advancement, are better predictors of success in MBA programs. He also indicated that factors such as loyalty, stability, and time management may be better predictors of success in business and therefore in a non-traditional MBA program.

In another significant article, Rogers and Rjntner (2001) stated that the GMAT Analytical Writing Assessment (AWA) gave no indication of a writer's needs, and that the actual essays did not represent the type of content that MBA students usually had in their writing assignments. Rogers and Rjntner (2001) also pointed out that business school assignments usually concentrate on relevant business topics such as employees, co-workers, consumers, investors, and the macro community, whereas the AWA is more of an analytical writing associated with the academic environment.

As shown in Table 1 (GMAC, 2008), as the age of applicants increases, the mean GMAT scores decrease, indicating that age is apparently an important factor. Many individuals in the CSU MBA program are over the age of 40.

Table 1: Comparison of different age groups on the GMAT

Age	Mean GMAT Score
28 – 30 years old	551
31 – 34 years old	539
35 – 39 years old	516
40 – 49 years old	485

(See GMAC, 2008, Table 5)

Further, research indicated that there are usually significant differences, in terms of gender and subgroups, relevant to how well the different groups score on the GMAT. The data in Table 2, shown below, must then be considered.

Table 2: Comparison of different age groups on the GMAT in 2007 – 2008

U.S. Subgroup	U. S. Mean Total Score Men	U.S. Mean Total Score Women
White (non-Hispanic)	560	521
African American	453	418

(See GMAC, 2008, Table 6)

Based on the above review of the literature, there appears to be evidentiary ground for not using or giving less weight to the GMAT variable when considering admitting decisions. There also appears to be evidentiary evidence indicating that other factors, such as race and gender, should be considered when reviewing the success of students in an MBA program. The literature appears to support the hypothesis.

DESCRIPTION OF DATA

Since Clayton State University began its MBA program with an on-campus cohort in the fall, 2007, 112 applicants have been admitted to the program. Sixty-one of those students completed their studies by the end of the summer term, 2009. Of those, 31 graduated in the spring, 2009, and another 30 graduated in the summer, 2009. Cohort 1 began in the fall, 2007, with 35 students, and the GMAT was required. Thirty-one students graduated in the spring, and three of those students had a 4.0 overall GPA for the entire MBA program. The mean age of students in that cohort was 37.

Cohort 2, another on-campus cohort, began in the spring, 2008, with 24 students, and 17 completed their studies in the summer, 2009. Of that group, two students had an overall MBA GPA of 4.0 The mean age of that group was 31.

Cohort 3, an off-campus cohort, also began in the spring, 2008, with 14 students. One withdrew because of the death of her husband, but 13 completed their studies in the summer of 2009. The mean age of that group was 43. Of those 13, the GMAT was waived for 12 of them based on their work experience. The waivers were granted to individuals who had significantly increasing managerial responsibilities at a highly responsible level within an organization or to individuals who own their own businesses. Six of the 12 students receiving GMAT waivers completed their studies in the summer, 2009, with a 4.0 overall

GPA in the MBA Program. Comparative Descriptive Data for the three cohorts is indicated in Table 3 below.

Table 3: Comparative Data for Students Completing Studies by Summer, 2009

Area	Cohort 1	Cohort 2	Cohort 3	Combined Cohorts
Number of Students	31	17	13	61
Mean Overall MBA GPA	3.68	3.72	3.88	3.73
Overall Undergraduate GPA	3.17	3.19	2.8*	3.1*
Upper Division Undergraduate GPA	3.41	3.38	2.85*	3.29*
GMAT Mean	449	431	470**	444**
Race (# of white students)	19	9	10	38
Gender (# of female students)	23	12	5	40
Age (at the start of MBA program)	37	31	43	37

*Undergraduate overall and upper level GPA for one student was not available

**In cohort 3, GMAT scores for all students with GMAT waiver except one were not available. The GMAT score for that student was older than 5 years old and therefore was not considered for the analysis but is used in calculating the mean.

ANALYSIS

Using a sample of the 61 recent graduates, the authors did a statistical analysis to determine (a) if work experience was a better predictor of success in the MBA program than GMAT scores and (b) what other variables might predict success in the program. The authors thus studied the effects of characteristics such as gender, race, and age on success, as measured by overall graduate GPA.

For cohorts 2 and 3, which began at the same time, took the courses in the same sequence, followed the same curriculum, and were taught by the same faculty, the only difference was that GMAT scores were required for cohort 2 and GMAT waivers were available for students in cohort 3. This will permit the authors to compare the two cohorts using two sample tests of our hypothesis. One would prefer to look at the regression analysis of the effect of GMAT on MBA overall GPA by adding GMAT waiver dummy variable and slope dummy. However, due to absence of GMAT score for those who used GMAT waiver, that analysis is not possible. Hence, the authors used the t-Test function in Microsoft Excel to compare the mean of the two samples: The one with GMAT waiver and the one without. Here is the hypothesis:

$$\begin{cases} Ho: \ \mu_1 \leq \mu_2 \\ Ha: \ \mu_1 > \mu_2 \end{cases} \tag{1}$$

where μ_1 is the MBA GPA mean for the MBA students with GMAT waiver and μ_2 is the MBA GPA mean for the MBA students without GMAT waiver. The p-value for the test is very small (0.000238) which means we strongly reject the null hypothesis that those with GMAT waiver do worse than those without GMAT waiver. This also indicates that we have strong evidence that those with GMAT waiver do significantly better than those without GMAT waiver.

After finding out that the group of students with GMAT waiver did better in their MBA studies - as measured by overall MBA GPA – authors tried to answer the following question: For the students without GMAT waiver, did GMAT score predict their success and was there any difference in their success based on their overall undergraduate GPA, age, race, or gender? To answer this question authors ran the following regression:

$$\text{MBA } GPA = \beta_0 + \beta_1 GMAT\,TotalScore + \beta_2 UndergradGPA + \beta_3\, AgeatStart + \beta_4\, White + \beta_5\, Female \quad (2)$$

where variables White and Female are two dummy variables with values equal to one when the student's race and gender are white and female, respectively, and zero otherwise. The results of this regression analysis are reported in Table 4:

Table 4: Determinants of Students' MBA GPA

Regression: MBA GPA	β_0	β_1	β_2	β_3	β_4	β_5
	constant	**GMAT Total Score**	**Undergrad GPA**	**Age at start**	**white**	**female**
Coefficient	3.15566	-0.00003	0.14513	-0.00227	0.16960	0.10584
std error of coef	0.32729	0.00051	0.09791	0.00353	0.07066	0.07699
t-ratio	9.6418	-0.0531	1.4823	-0.6438	2.4003	1.3747
Significance	0.00%	95.79%	14.55%	52.31%	2.08%	17.63%
beta-weight		-0.0079	0.2284	-0.0868	0.3316	0.1889
standard error of regression		0.227936757				
R^2		28.83%				
adjusted R^2		20.56%				
number of observations		49				
residual degrees of freedom		43				
t-statistic for computing						
95%-confidence intervals		2.0167				

The adjusted R^2 indicates that about 20% of the variation in dependent variables can be explained by variations in independent variables. The coefficients for all variables except race (dummy variable White) are insignificant. When authors examined simple regression model with only GMAT score as independent variable the adjusted R^2 was only 3% and coefficient for GMAT score was insignificant. This suggests little or no connection between GMAT scores and success in MBA program as measured by MBA GPA.

A closer look at scatter plot of MBA GPA vs. GMAT scores also suggests that there is no connection between MBA success and GMAT scores (Figure 1). There is no evidence that MBA GPA as a measure of success and GMAT are linearly related. Figure 2 depicts the plot of residuals of the regression model against the predicted values of MBA GPA.

Figure 1: Scatter plot of MBA GPA vs. GMAT scores

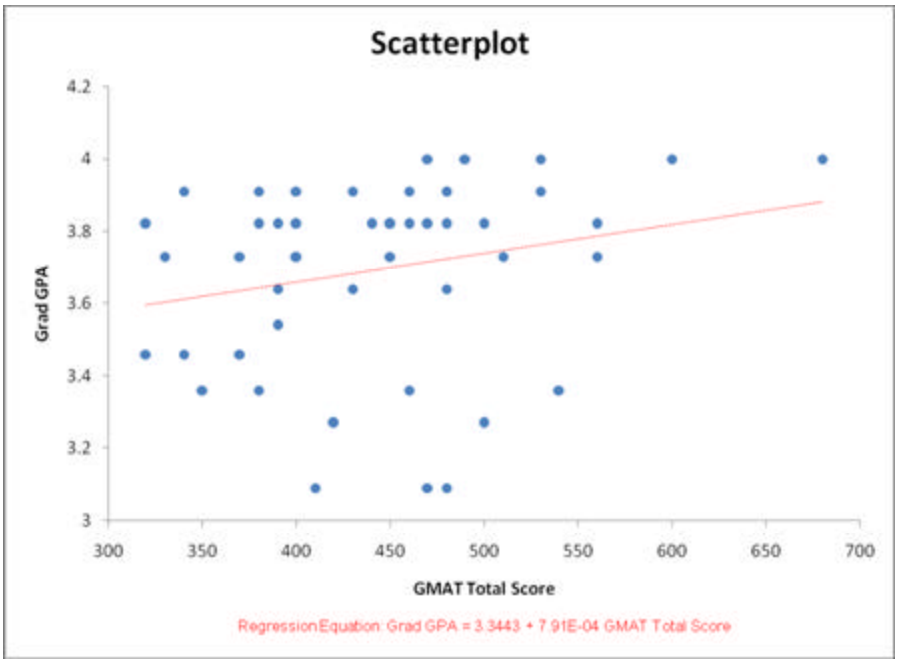
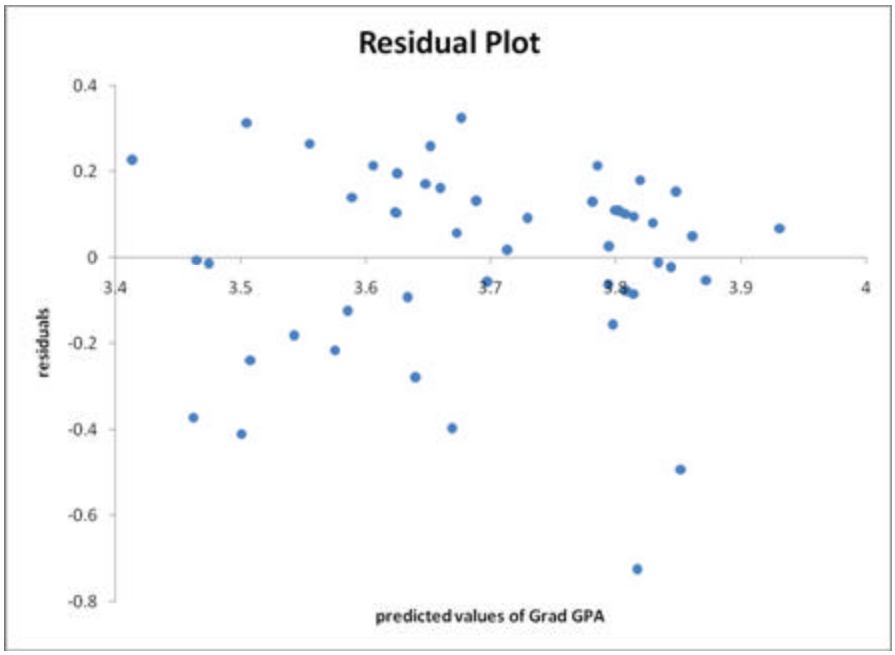


Figure 2: Scatter plot of MBA GPA vs. GMAT scores



SUMMARY AND REFLECTION

Although the study involves a small number of individuals, it appears that work experience is a better predictor of the overall GPA in an MBA program than the GMAT exam. The CSU study confirms this, as did the study by Gropper (2007). The CSU study confirmed that there appears to be evidentiary grounds for not using or giving less weight to the GMAT variable when considering admitting decisions. This initial study appears to indicate this university must thoroughly consider the positive effects of considering work experience as it relates to overall performance in an MBA program.

The university must still, however, have a means of knowing the skills of students with significant work experience. One possible solution would be to offer a provisional acceptance for those qualifying for GMAT waivers, and to then require an in-depth writing assignment in the first course that the students took in an MBA program. By offering provisional entry, MBA candidates will be given the chance to prove they can perform at the MBA level. Since the GMAT is possibly not as good a predictor as work experience, having an in-depth writing assessment in the first MBA course would still identify any writing weaknesses that students might have. MBA students take learning seriously and actively seek tutorial help when needed. By having the in-depth writing assignment, students could still be evaluated on their writing skills and given additional help.

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