ABSTRACT: With the establishment of emotional intelligence (EI) and EI testing, psychology has offered the business world a powerful and invaluable tool capable of predicting success in the workplace. The most progressive organizations are already employing such tests in their HR selection/promotion processes. The business school industry maintains a vital interface with the various industry sectors, providing companies with their ‘senior executives of the future’. However, even given the highly competitive environment in which business schools operate; attracting top MBA candidates, and later placing their graduates with prestigious companies, they continue utilizing an outdated, IQ-based, standardized test (the GMAT) as a critical, and often times deciding criterion within their graduate selection processes. The recognized limitations of IQ, as well as its failure to predict professional success, remain a catalyst for the popularization of EI. The author proposes that, in conjunction with top recruiting organizations, business schools initiate an EI-based ‘soft skills’ admission test that would compliment, or even subsume the existing Graduate Management Admission Test.

Key words: Emotional Intelligence, Business Schools, GMAT, Cognitive Testing, Selection, Management
Collectively, business schools have positioned themselves as an invaluable interface with the various industry sectors, identifying, developing, and placing MBAs into the marketplace. Recruiting organizations have grown to depend on these regular injections of fresh ‘recruits’; future executives and strategic decision makers, who will help propel their enterprises further down the road of success, well into the future (www.gmac.com/selections, 2004).

This paper highlights the fact that the business school ‘industry’ has failed to keep abreast of the most up-to-date and effective selection tools for identifying potential MBA candidates. The discipline of emotional intelligence (EI), although recent in its emergence (Mayer et al., 2001), has became fairly well established both within academia and the business environment, whilst measurement tools utilized for evaluating EI are widespread, and employed by many of the most progressive organizations. Moreover, «the IQ equates to success» zeitgeist of the 20th century (including IQ-based standardized testing still dominant within Western education) has been largely abandoned by a growing number of psychologists due to its failure to predict success in professional careers and the workplace. (Mayer, 2001; Mayer and Salovey, 1993; Salovey and Mayer, 1990; Sternberg, 1985, 2001).

THE GRADUATE MANAGEMENT ADMISSION TEST (GMAT)

Essentially, the Graduate management Admission Test (GMAT) is similar to other cognitive-based standardized tests, used at all levels of education. The GMAT is simply a standardized IQ-based assessment tool, whose origin dates back to 1953 when nine business schools (see Table 1) collaborated in its creation. The original test was called the «Admission Test for Graduate Study in Business» or ATGSB. The main driver for developing the ATGSB was «to create a fair and accurate way to select qualified applicants and the belief that a new examination could help predict academic success» (www.gmac.com/selections, 2006).

<table>
<thead>
<tr>
<th>TABLE I</th>
</tr>
</thead>
<tbody>
<tr>
<td>First nine sponsors of the GMAT</td>
</tr>
<tr>
<td>Columbia University</td>
</tr>
<tr>
<td>Northwestern University</td>
</tr>
<tr>
<td>Rutgers University</td>
</tr>
<tr>
<td>Seton Hall University</td>
</tr>
<tr>
<td>University of Chicago</td>
</tr>
<tr>
<td>University of Michigan</td>
</tr>
<tr>
<td>University of Pennsylvania</td>
</tr>
<tr>
<td>Washington University (St. Louis)</td>
</tr>
</tbody>
</table>
Since 1953, the GMAT has changed its name, grown in its user-base (see Table 2), and has become a required and deciding factor in the graduate admission selection portfolio for business schools around the world. Although the proprietors of the GMAT broadcast that the test has changed significantly over the years, its current semblance raises considerable doubt as to this claim (see Table 3).

**TABLE II**
First nine sponsors of the GMAT

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>1954</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>GMAT volume at year-end</td>
<td>2,553</td>
<td>249,632</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2002 data)</td>
</tr>
<tr>
<td>Number of programs that received GMAT score reports</td>
<td>54</td>
<td>Approx. 1,700</td>
</tr>
<tr>
<td>from students</td>
<td></td>
<td>85% US;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15% non-US</td>
</tr>
<tr>
<td>Number of US programs requiring the GMAT</td>
<td>9</td>
<td>851</td>
</tr>
<tr>
<td>Number of non-US programs requiring the GMAT</td>
<td>0</td>
<td>321</td>
</tr>
<tr>
<td>Total number of test centers</td>
<td>103</td>
<td>575</td>
</tr>
<tr>
<td>Number of US test locations</td>
<td>96</td>
<td>364</td>
</tr>
<tr>
<td>(1954-5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of non-US test locations</td>
<td>7</td>
<td>211</td>
</tr>
<tr>
<td>(1954-5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price</td>
<td>US$10</td>
<td>US$225</td>
</tr>
<tr>
<td>Time given to complete the exam</td>
<td>175</td>
<td>210</td>
</tr>
<tr>
<td>minutes</td>
<td></td>
<td>minutes</td>
</tr>
<tr>
<td>Number of allowable resits</td>
<td>0</td>
<td>5 times/year</td>
</tr>
<tr>
<td>Average GMAT mean score</td>
<td>500</td>
<td>528</td>
</tr>
</tbody>
</table>

*Source: GMAC 2006 literature*

**IQ AS A PREDICTOR OF PERFORMANCE**

Until recently, emotional variables were not considered by researchers when attempting to explain success, but rather, the plethora of data grossly favored intellectual ability, as has the Western culture around us (Goleman, 1995).
Goleman (1995, p. 35) offers the following example to support the proposal that given roughly equal promise, education, and opportunities, IQ is hardly predictive of success:

• «When ninety-five Harvard students from the classes of the 1940s - a time when people with a wider spread of IQ were at Ivy League schools than is presently the case - were followed into middle age, the men with the highest test scores in college were not particularly successful compared to their lower-scoring peers, in terms of salary, productivity, or status in their field. Nor did they have the greatest life satisfaction, nor the most happiness with friendships, family, and romantic relationships» (Vaillant, 1977).

Vaillant’s Harvard longitudinal research underscores the low level of prediction IQ has as to determining success - even given the privileged nature of the graduates.

• «A similar follow-up [study] in middle-age was done with 450 boys, most sons of immigrants, two-thirds from families on welfare, who grew up in Sommerville, Massachusetts - at the time a “blighted slum” a few blocks from Harvard [University]. A third had IQs below 90. But again, IQ had little relationship to how well they had done at work or in the rest of their lives; for instance, 7% of men with IQs under 80 were unemployed for 10 or more years, but so were 7% of men with IQs over 100. To be sure, there was a general link (as there always is) between IQ and socioeconomic level at age forty-seven. But, childhood abilities such as being able to handle frustrations, control emotions, and get on with other people made the greatest difference».

The Felsman and Vaillant 40-year Sommerville, Massachusetts study further evidences the inability of IQ to forecast people’s success.
• «Consider also the data from an ongoing study of eighty-one valedictorians and salutatorians from the 1981 class in Illinois high schools. All, of course, had the highest grade-point averages in their schools. But while they continued to achieve well in college, getting excellent grades, by their late twenties they had climbed to only average levels of success. Ten years after graduating from high school, only one in four were at the highest level of young people of comparable age in their chosen profession, and many were doing much less well».

Professor Arnold, the senior researcher involved in the valedictorian study attributed the results to the participants’ competence in performing at the highest levels within the intellectual academic arena, whilst the same individuals failed to demonstrate similar superior success when confronted with the external challenges and vicissitudes of life, e.g. employment, career development, relationships, frustrations, etc...

Then what practical purpose does the GMAT serve in selecting candidates to be prepared by business schools to enter industry as fast track mid- to senior- level managers? According to the Graduate management Admission Council (GMAC) literature, the GMAT does not predict:

• knowledge of business;
• job skills;
• motivation, creativity, interpersonal skills, etc... (critical management skills);
• abilities in any other subject area (GMAC literature, 2006).

There is a plethora of other essential management skills and competences that the GMAT is not designed to measure, but we can proceed with the short list the creators of the test have provided above.

So, what does the GMAT predict? Again, according to the custodians/developers of the GMAT, the Graduate Management Admission’s Council (GMAC) claims the test to be predictive in determining «how well a graduate student might do in the first year of a traditional 2-year MBA program. The evidence they offer in support of their claim is as follows».

• «Analyses of the relationship between a combination of three of the GMAT variables [I believe they mean the three GMAT variables, as the GMAT consists of only three sections] - Verbal, Quantitative, and AWA [Analytical Writing Assessment] have been conducted at numerous schools since the inception of the GMAT exam. The average (represented by the median) statistical relationship is +0.41 out of a possible +1.00. When undergraduate grade point average was added to the three
GMAT variables, the predictive power increased to +0.47» (GMAC literature, 2006).

However, critically analyzing this statement, it is not much of an advertisement in support of business schools utilizing the GMAT for graduate school selection purposes. Firstly, it is not surprising that there is a statistical association (correlation coefficient) between the variables mentioned, as they all represent IQ-based academic assessment. Most likely, this is what the positive relationship in this case represents.

Secondly, the strength of this relationship is only moderate - at best. Some statisticians would even classify it as small (even with the added weight of including undergraduate grades as a variable) (Hair et al., 2003; Remenyi et al., 2000). The general rules of thumb associated with correlation coefficient size are represented in Table 4.

<table>
<thead>
<tr>
<th>Coefficient Range</th>
<th>Strength of Association</th>
</tr>
</thead>
<tbody>
<tr>
<td>± .91 - ± 1.00</td>
<td>Very Strong</td>
</tr>
<tr>
<td>± .71 - ± .90</td>
<td>High</td>
</tr>
<tr>
<td>± .41 - ± .70</td>
<td>Moderate</td>
</tr>
<tr>
<td>± .21 - ± .40</td>
<td>Small</td>
</tr>
<tr>
<td>± .01 - ± .20</td>
<td>Slight</td>
</tr>
</tbody>
</table>

Source: Adapted from Hair et al., 2003

Lastly, the first year of traditional 2-year MBA programs tends to be the most ‘academic’ stage, as students become acquainted with the important concepts that underpin their MBA education, and further equip them with the knowledge needed to take a critical and ‘holistic’ perspective when making vital executive decisions throughout the final semesters of their MBA programs and forthcoming management careers; which are more-often-than-not devoted to complex case analyses, requiring all of the competences listed above as being skills that the GMAT does not predict or measure.

**EQ AS A PREDICTOR OF PERFORMANCE**

Whilst raw intellect has shown little evidence as a predictor of performance within the scope of the workplace and professional career advancement, emotional traits or ‘competences’ have direct impact on people’s performance and success (Gardner, 1983; Goleman, 1995; 1998). These emotional competences comprise one’s overall
emotional aptitude; a ‘meta-ability’, determining how effectively we utilize other skills, competences, and abilities - including IQ.

• «Much evidence testifies that people who are emotionally adept - who know and manage their own feelings well, and who read and deal effectively with other people’s feelings - are at an advantage in any domain of life (...) picking up the unspoken rules that govern success in organizational politics. People with well-developed emotional skills are also more likely to be content and effective in their lives, mastering the habits of mind that foster their own productivity; people who cannot marshal some control over their emotional life fight inner battles that sabotage their ability for focused work and clear thought» (Goleman, 1995, p. 36).

Goleman’s investigation into emotional intelligence can be traced back to the groundbreaking research of Gardner. Gardner (1983) revealed strong evidence supporting his proposal that IQ is only one of multiple intelligences inherent to the human mind. Gardner rejected the IQ-focused research community continuing to support cognition as the forecaster of success.

Gardner (1983) identified seven different intelligences, two of which he termed - «Personal Intelligences» (interpersonal and interpsychic respectively). Gardner (1993) offered the following contracted definition for his personal intelligences: «Interpersonal intelligence is the ability to understand other people: what motivates them, how they work, how to work cooperatively with them. Successful salespeople, politicians, teachers, clinicians, and religious leaders are all likely to be individuals with high degrees of interpersonal intelligence».

Elsewhere (1989), Gardner also included: «the capacities to discern and respond appropriately to the moods, temperaments, motivations and desires of other people», «Intrapersonal intelligence (...) is a correlative ability, turned inward. It is a capacity to form an accurate, veridical model of oneself and to be above using[RE1] that model to operate effectively in life» (1993).

Again, in a different source (1989), Gardner notes «access to one’s own feelings and the ability to discriminate among them and draw upon them to guide behavior» as being essential components of intrapersonal intelligence.

Building upon the personal intelligences model introduced by Gardner’s theory of multiple intelligences, an increasing number of psychologists subscribe to Gardner’s perspective that raw intellect, as measured by traditional IQ testing, fails to explain people’s successes and failures in productivity, career development, relationships, etc.,
which eventually led to the identification and fostering of the theory — emotional intelligence (EI) (Mayer et al., 2001; Salovey and Mayer, 1990; Sternberg, 1985).

Thorndike, a strong proponent of IQ during the early 1900s, published an article concerning the existence of what he termed «social intelligence»; the ability to understand others and act wisely in human relations, was an important part of IQ. Although Thorndike’s approach of subsuming the social component of emotional intelligence into IQ has been rejected by the founders of emotional intelligence, his acknowledgement as to the existence of non-cognitive intelligence raised interest decades later.

Sternberg (1985) was one such researcher who revisited Thorndike’s conclusion about social intelligence. Research of his own culminated in his agreeing with Thorndike that: «Social intelligence is both distinct from academic abilities and a key part of what makes people do well in the practicalities of life. Among the practical intelligences that are, for instance, so highly valued in the workplace is the kind of sensitivity that allows effective managers to pick up tacit messages» (Sternberg, 1985, in Goleman, 1995, p. 42).

Gardner’s contribution of multiple intelligences and personal intelligences were only a fraction of the research collected and subsumed into Salovey and Mayer’s theory of EI. Salovey and Mayer also investigated the fields of intelligence and emotions, aesthetics, artificial intelligence, brain research and clinical psychology (Mayer et al., 2001).

In 1990, Salovey and Mayer officially employed the term «emotional intelligence» to differentiate their new theory and ‘field’ from others. They further initiated what they claim to have been the first empirical study into the field, utilizing their own newly developed measurement instrument (Mayer et al., 2001). However, it was not until 1993 that Salovey and Mayer officially published an article supporting their theory, and arguing the case for further research in this newly identified field (Mayer and Salovey, 1993). And 1999 marked the publication of the first peer reviewed research by Mayer, Caruso and Salovey.

Solovey and Mayer conducted their first empirical study, employing their specifically developed measurement tool (1990). In 1990, Mayer, DiPaolo and Solovey defined EI as follows:

• «A type of informational processing that includes accurate appraisal of emotions in oneself and others, appropriate expression of emotion, and adaptive regulation of emotion in such a way as to enhance living» (p. 773).
In 1993, Solovey and Mayer published a follow-up editorial based on their work to-date. The period 1990 - 1993 represented the ‘demarcation’ of the study and field of emotional intelligence (Sternberg, 2001).

**RECENT TRENDS IN EI DEVELOPMENT: 1994 - 1997**

The popularization of emotional intelligence can be largely attributed to Goleman’s 1995 book entitled Emotional Intelligence. Not unlike Solovey and Mayer, although in a less scientific way, Goleman packaged and presented the concept of EI; Goleman, however, introduced the concept to the general public - worldwide.

The definition/explanation Goleman provided was based on Solovey and Mayer’s 1990 definition; which subsumed Gardner’s.

- Knowing one’s emotions. Self-awareness - recognizing a feeling as it happens - is the keystone of emotional intelligence. The ability to monitor feelings from moment to moment is crucial to psychological insight and self-understanding. An inability to notice our true feelings leaves us at their mercy. People with greater certainty about their feelings are better pilots of their lives, having a surer sense of how they really feel about personal decisions from whom to marry to what job to take.

- Managing emotions. Handling feelings so they are appropriate is an ability that builds on self-awareness. People who are poor in this ability are constantly battling feelings of distress, while people who excel in it can bounce back far more quickly from life’s setbacks and upsets.

- Motivating oneself - Marshaling emotions in the service of a goal is essential for paying attention, for self-motivation and mastery, and for creativity. Emotional self-control - delaying gratification and stifling impulsiveness - underlies accomplishment of every sort. And being able to get into the ‘flow’ state enables outstanding performance of all kinds. People who have this skill tend to be more highly productive and effective in whatever they undertake.

- Recognizing emotions in others. Empathy, another ability that builds on self-awareness, is the fundamental ‘people skill’. People who are empathic are more attuned to the subtle social signals that indicate what others need or want. This makes them better at callings such as the caring professions, teaching, sales, and management.

- Handling relationships. The art of relationships is, in large part, skill in managing emotions in others. These are the skills that undergird popularity, leadership, and
interpersonal effectiveness. People who excel in these skills do well at anything to do with interacting smoothly with others; they are social stars.

1998 - PRESENT

More recently, since 1998, the concept of emotional intelligence has seen increased popularity and further theoretical refinements have been applied (Mayer et al., 2001). Since Salovey and Mayer first developed/tested their EI measurement tool (1990), an increasing number of instruments have been created.

Mayer and Salovey may well have contributed the most to the initial development of the field of emotional intelligence through their exposure of an overlooked concept of emotional intelligence, followed by their meticulous mapping of the relevant research from diverse fields, identifying the theory, defining, and arguing for the existence of emotional intelligence, as well as its nature, and how it can be measured - to the greater academic community.

That said, Goleman should be credited for popularizing EI and presenting the concept in a clearly defined categorical manner. Goleman initiated a lot of attention to and interest in the field and motivated a myriad of research involving EI with his statements that: a. emotional intelligence was more important than IQ in all aspects of life; even as much as twice as important; b. EI was a reliable predictor of success in all areas of one’s life (1995). Goleman (1998) encapsulates this important point by maintaining: «...to sum up: For star performance in all jobs, in every field, emotional intelligence is twice as important as purely cognitive abilities» (pp. 33-34).

WHY SHOULD BUSINESS SCHOOLS CARE?

Largely due to ‘globalization, competition, and sophistication in marketing, rankings and media attention, as well as curricular and pedagogical reforms, the role of the MBA continues to hold a critical and ‘hallowed’ role within the broad labor market, providing recruits for ‘fast track’ senior executive advancement within organizations. In many ways, the economy is a reliable ‘barometer’ for measuring the fair or stormy ‘weather’ of industry recruitment at business schools.

Certainly for the leading business schools, maintaining a high level of competitiveness whilst ensuring streamlined admissions guidelines «keep the cogs turning». However, this seems to contradict the concern of business schools back in 1953 for developing a fair and equitable criterion to be utilized in graduate school candidate acceptance. Most certainly, a criterion that is in fact predictive of future success, such
as an EI-based test, would undoubtedly prove to be a more effective, not to mention ethical approach to the MBA selection process.

It is no secret that prospective MBA students are nearly, without exception, seeking an MBA for career enhancement; generally through promotion or shifts in industry. Recruiters seek to identify human resources who will be the future strategic decision makers within their organizations. Within this context, in order to optimize their training/development/placement interface with the marketplace, business schools must be expert at identifying those candidates most likely to succeed not only at graduate school, but post hoc, as managers and professionals.

**HOW TO PROCEED?**

Many EI scholars recognize the need for a certain threshold of IQ in order to maintain a high level of emotional intelligence (Dulewicz and Higgs, 2000a, 2003; Goleman, 1995, 1998; Salovey and Mayer, 1990; Sternberg, 1985, 2001; Van Genderen, 2006), but as Goleman’s aforementioned statement clearly highlights, it is EI that is ultimately critical and predictive of professional success.

Since Salovey and Mayer developed their original EI measurement instrument (1990), many such tools have become available for employment within both commercial and academic settings.

- «There are two types of EI measures: performance tests and self-report questionnaires...Performance measures are generally more time-consuming to administer than self-report measures» (Ciarrochi et al., 2001, p. 29).

The most practical format for the purpose of identifying graduate students for advanced business degree programs would be for business schools and MNCs to initiate the development of a ‘soft skills’, EI-based test to be developed by a centralized testing commission, e.g. the Educational Testing Service (ETS), Princeton, NJ, USA, which already specializes in the creation/administration of standardized educational assessments. Moreover, such services have the research/development funding and capacity to competently design an effective tool, and just as importantly, these testing services already maintain global networks of testing centers, whereby such a newly developed soft-skills test could be efficiently administered.

Such a test would not necessarily replace the existing GMAT; but rather could compliment it as a further requirement, in addition to the existing selection portfolio business schools require of potential MBA candidates. Alternatively, the two tests
could be combined into one comprehensive admissions test. Emotional intelligence testing is among the most valuable new assessments utilized within the broader HR arena. The most advanced organizations already administer a battery of psychological assessments to potential employees, at all levels of the organization, demonstrating that industry has become ‘enlightened’ by the tremendous value the new discipline of emotional intelligence offers them. In the meantime, business schools remain in ‘the dark’ and well behind the curve.

«The art of progress is to preserve order amid change and to preserve change amid order», Alfred North Whitehead.

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