

Marketers with MBAs: Bridging the Thinking-Doing Divide

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Introduction

The marketing community worldwide clearly acknowledges a disconnect between marketing education and marketing practice. Ross Brennan, guest editor for a recent special issue of *Marketing Intelligence & Planning*, “The Academic/Practitioner Divide: Myth or Reality,” (Vol. 22, No. 5, 2004), observed this when he reported that “nobody chose to submit a paper supporting the ‘myth’ side of the argument” (Brennan, 2004, p. 492). In that issue, McCole (2004) boldly asserts that the “academic/practitioner ‘gap’ has now developed into a chasm” (p. 531), while in another article Tapp (2004) points to “a sizeable gap between the worldviews of academics and practitioners” (p. 579). A 2001 special edition of the *British Journal of Management* was devoted entirely to examining the existence of a relevance gap. In the edition, Starkey and Madan assert that U.S. business needs are changing and that:

...unless business schools respond to the challenges of developing knowledge relevant to this changing customer base they run the risk of obsolescence, to be replaced by new providers, perhaps management consulting firms or the burgeoning corporate university ‘movement’, that are perceived, by some clients, as better able to fill the relevance gap (as cited in Tapp, 2004, p. 580).

In the United States, Pfeffer and Fong (2002) write, in part, that:

...although business schools and business education have been commercial successes, there are substantial questions about the relevance of their educational product... (pp. 78-79)

But what effect, if any, is this relevance gap having on the development of skills and capabilities of marketers graduating from MBA programs? What skills and

capabilities are being developed among graduates; and to what extent are these valued by practitioners? And perhaps of most importance, what do the answers to these questions suggest for the future education of marketers at the graduate level? To answer these questions, we rely on the results of surveys sponsored by Graduate Management Admission Council[®] (GMAC[®]), a not-for-profit education association best known around the world as provider of the Graduate Management Admission Test[®] (GMAT[®]).

Methodology

The findings reported are based on surveys among three constituencies: MBA graduates, MBA alumni, and corporate recruiters. We first discuss the general methodology used in the surveys and then the specific methodologies for each of the three surveys utilized in this paper.

The surveys use a Web-based survey methodology, allowing the investigator to collect information from global samples in a cost-efficient manner that ensures a high level of data quality. Item non-response errors are eliminated using available technology that requires questions to be answered before advancing further—an error elimination method not possible in a mail survey. Further checks in the programming provide additional quality control measures, such as automated skip patterns based on selection parameters. Possible responses to multiple-response questions are randomized, controlling for order bias.

Although some researchers have reservations about a “digital divide”—potential gaps in Web-based survey coverage—the populations and samples used in this research have access to computers and the Internet and are generally well-versed in their use, thus eliminating the greatest concerns with this mode of data collection.

Global MBA® Graduate Survey

The Global MBA® Graduate Survey, first launched in 2000, is an annual survey of students in their final year of graduate business school. The survey objectives are to gauge the opinions of graduating students regarding their education and the value of the degree, to gather information as to how students choose the school in which they attend, whether they would recommend their school and what they intend to do with their degree after graduation.

Each respondent is asked to indicate the job function they plan to occupy or seek upon graduation from a list of 44 possibilities, which are then collapsed into seven categories for analysis purposes. The “Marketing/Sales” category on which some of the data in this paper is based includes public relations, product management, market research, advertising, sales, sales management, communications, and other marketing/sales positions.

In the 2005 Global MBA® Graduate Survey, 129 of the 372 schools invited worldwide to participate provided the student data or agreed to forward the survey invitation to their students—a response rate of 34.5% among schools. The 129 schools that participated provided valid information for 18,520 graduating students. When the survey closed, 5,829 graduating students had logged in and completed the survey—a response rate of 31.5%.

MBA Alumni Perspectives Survey

The MBA Alumni Perspective Survey is a biannual panel survey of graduate business school alumni who previously participated in Global MBA® Graduate Surveys. The survey objectives are to understand first and/or current job characteristics, track changes in responsibilities, promotions, and salaries, assess the performance of graduate management education, and monitor the educational needs of alumni.

The analysis for this paper is based on the job function the respondent currently occupies. As in the Global MBA® Graduate Survey, respondents indicate their anticipated job function from a list of 44 possibilities; the “marketing/sales” category includes the same eight job functions. In addition to job function, some analysis is based on the subject area in which the respondent concentrated during MBA studies.

In the September 2004 MBA Alumni Perspectives Survey, there were 3,392 respondents from 11,286 valid sample members representing the graduating classes of 2000, 2001, 2002, 2003, and 2004—a response rate of 30.1%. There are 2,209 respondents for the April 2005 MBA Alumni Perspectives Survey—a 20.2% response rate.

Corporate Recruiter Survey

The Corporate Recruiter Survey, an annual survey of MBA employers, was first launched in the 2001–2002 recruiting season. The survey objectives are to gather information that graduate business school professionals, MBA students, and prospective students can use to gauge the job market and better understand employers’ expectations; to gather information MBA employers can use to develop recruiting and hiring plans, and to provide comprehensive data to business school professionals and employers that they can use to benchmark their MBA recruiting practices.

In the 2004–2005 Corporate Recruiters Survey, 84 of the 290 schools worldwide that were invited to participate provided the requested data on recruiters—a response rate of 37.8% among schools. The 84 schools that participated provided valid information for 15,329 individual recruiters representing 5,187 companies. When the survey closed, 1,691 individual recruiters representing 1,019 companies had logged in and completed the survey. This is an 11.0% response rate for individual recruiters and a 19.6% response rate for companies.

Questionnaire Item Development and Use

The question items used in the three surveys and analyzed for this paper measure MBA skills and abilities from a variety of perspectives. The inventory of skills and abilities is based on discussions with MBA faculty and program administrators. These discussions led to the development of a list of core competencies relevant to the MBA curriculum.

The Global MBA® Graduate Survey addresses how an MBA education affects the level of proficiency of graduates. Self-reported scores are used to gauge the change between pre-MBA and post-MBA proficiency among MBA graduates. Although bias may be present, prior research suggests that self-reported performance is a valid measurement technique (Bernardin et al., 1995; Lane & Herriot, 1990; Baruch & Leeming, 1996) and that self-

reported performance correlates to performance outcomes (Atwater et al., 1998). In the MBA Alumni Perspective Survey, alumni are asked to indicate the skills and abilities used on their current jobs, as well as the areas in which they require additional training. In the Corporate Recruiter Survey, recruiters are asked to specify the skills and abilities they find attractive in MBA graduates.

Findings

Our findings are organized into two broad sections. The first section reports on the current situation: the skills and abilities companies find attractive among MBA graduates being hired for marketing positions; the skills and abilities used by alumni who occupy marketing positions; and how an MBA education affects the level of proficiency of graduates who expect to work in marketing positions. The second section assesses the future: the retrospective educational needs of those who concentrated in marketing in their MBA programs, as well as those who currently

work in marketing; the skills and abilities that companies say need strengthening among MBA graduates being selected for marketing positions; and the areas in which alumni have received more education/training since completing their MBAs, as well as their plans for the future.

The Current Situation

What skills and abilities do companies find attractive among MBA graduates being selected for marketing positions?

Forty-two recruiters responding to the Corporate Recruiters Survey 2004–2005 recruited exclusively for marketing positions. Along with all other participating recruiters, they responded to the question, “Please tell us why MBA graduates may be attractive to your company,” selecting from a set of (randomized) multiple-response items. Results are shown in Table I in which skills and abilities are listed in descending order of attractiveness.

Table I. Skills and Abilities Companies Find Attractive	
Skills and Abilities	Marketing Recruiters Only (N= 42)
Ability to think strategically	81%
Ability to think analytically	76%
Oral communication skills	71%
Quantitative skills	69%
Written communication skills	67%
Leadership skills	67%
Creative problem-solving skills	62%
Information-gathering skills	57%
Interpersonal skills	57%
Ability to integrate information from a wide variety of sources	55%
Ability to adapt/change to new situations	50%
Work ethic	48%
Ability to make decisions with imperfect information	45%
Initiative/risk-taking ability	40%
Cultural sensitivity and awareness	31%
Implementation skills	29%
Skills in corporate ethical conduct	21%
Technological skills	19%
Ability to delegate	19%
Source: Corporate Recruiter Survey 2004-2005	

Recruiters found the abilities to think strategically and analytically as the most attractive skills for potential employees graduating with an MBA (81% and 76%, respectively). These skills are followed in attractiveness by oral communication skills, quantitative skills, written communication skills, and leadership skills. Cultural sensitivity and awareness, implementation skills, skills in corporate ethical conduct, technological skills, and the ability to delegate were found least attractive for recruitment.

Interestingly, in comparing recruiters who recruit exclusively for marketing positions with those who recruit for a combination of marketing and other positions (n=265) and those who recruit exclusively for non-marketing positions (n=112), we found that only three skills and abilities differ significantly in attractiveness. In each case, those who recruit exclusively for marketing are more like those who recruit for non-marketing positions than they are like those who recruit for marketing and other positions. Significant differences were noted for the following:

- Leadership skills: 67% of those recruiting for marketing identified leadership skills as attractive, contrasted with 65% of those recruiting for non-marketing positions and 75% of those recruiting for marketing and other positions.
- Ability to adapt/change to new situations: 50% of those recruiting for marketing identified the ability to adapt/change as attractive, contrasted with 54% of those recruiting for non-marketing positions and 65% of those recruiting for marketing and other positions.
- Initiative/risk-taking ability: 40% of those recruiting for marketing identified initiative/risk-taking ability as attractive, contrasted with 38% of those recruiting for non-marketing positions and 53% of those recruiting for marketing and other positions.

In general, then, those recruiting exclusively for marketing positions are not different from other recruiters in what they find attractive in MBA graduates, which may indicate an absence of recognition for the development of skills specific to marketing during recruitment. This finding is

consistent with the observation of McCole (2004) that there is a “widespread and highly entrenched cultural prejudice, which does not recognize the professionalism and skills of marketing specialists” (p. 531), as gleaned from a study conducted by the UK Chartered Institute of Marketing.

A factor analysis of responses to this question among those recruiting exclusively for marketing (Appendix I) shows that the attractiveness of the 19 skills and abilities reduces to five underlying factors, named here along with the items that best define them:

- Decision-making under uncertainty: ability to adapt/change to new situations; ability to make decisions with imperfect information; ability to integrate information from a wide variety of sources;
- Communication skills: oral and written communications skills;
- Cultural and ethical awareness: cultural sensitivity and awareness; skills in corporate ethical conduct;
- Data collection and analysis: information-gathering skills; quantitative skills;
- Strategic/analytical thinking: ability to think strategically; ability to think analytically.

In general, then, the factor analysis shows that recruiters find skills related to strategic/analytical thinking and communication most attractive; and skills related to cultural and ethical awareness least attractive. Decision-making under uncertainty and data collection and analysis are intermediate in attractiveness.

What skills and abilities do marketers use on the job?

Respondents to the September 2004 MBA Alumni Perspectives Survey indicated the extent to which they are using different skills and abilities in their current jobs, using a five-point scale: a great deal, a good amount, some, a little, not at all. Of the total sample of alumni, 658 respondents were working in marketing or sales positions. When those who responded “a great deal” or “a good amount” are combined to indicate high usage, results are as shown in Table 2.

Table 2. Skills and Abilities Used by Marketing Professionals	
Skills and Abilities*	Percent N= 658
Interpersonal skills	91%
Oral communication skills	85%
Written communication skills	82%
Integrating information from a wide variety of sources	81%
Analytical thinking	77%
Developing creative problem-solving skills	74%
Strategic thinking	70%
Leadership skills	62%
Managing change	60%
Networking skills	57%
Technical skills for your specialty	56%
Analyzing, organizing, and interpreting statistical data	51%
Conducting cost/benefit analyses of proposed changes	38%
Conducting financial analyses and preparing a budget	32%
Recruiting, managing, and maintaining staff	23%
*Used "a great deal" or "a good amount" by those working in marketing positions	
Source: MBA Alumni Perspectives Survey, September 2004	

Alumni report greatest usage of their interpersonal skills and oral and written communication skills, although integrating information from a wide variety of sources differs little in usage from written communication skills, as shown in the table. Relatively high usage is also reported for analytical thinking, creative problem-solving skills, and strategic thinking, although usage of these skills is notably less than interpersonal skills. The skills used least involve financial analysis (conducting cost/benefit analyses of proposed changes and conducting financial

analyses and preparing a budget) and direct staff management (recruiting, managing, and maintaining staff).

Because the specific job function within marketing and sales is likely to affect the usage of different skills, we cross-classified responses to this question by the five specific job functions identified on the questionnaire for which sample sizes were sufficient. A general category identified as "other marketing/sales" was also used. Table 3 reports the results.

Table 3. Usage of Skills and Abilities in Different Marketing Job Functions*

Skills and Abilities	Product/ Project Management N= 245	Market Research N= 71	Sales N= 81	Sales Management N= 90	Commu- nications N= 25	Other Marketing/ Sales N= 130	X ² Significance Value
Interpersonal skills	95%	85%	91%	91%	96%	87%	0.300
Oral communication skills	87%	79%	94%	88%	80%	80%	0.048
Written communication skills	87%	85%	67%	81%	92%	78%	0.002
Ability to integrate information from a wide variety of sources	84%	83%	68%	82%	72%	83%	0.023
Analytical thinking abilities	84%	94%	58%	77%	48%	76%	<0.001
Creative problem solving skills	81%	75%	58%	82%	56%	70%	<0.001
Strategic thinking abilities	80%	75%	46%	72%	56%	66%	<0.001
Leadership skills	71%	55%	44%	67%	48%	56%	<0.001
Managing change	67%	44%	51%	67%	40%	61%	<0.001
Networking skills	56%	35%	77%	63%	60%	57%	<0.001
Technical skills for your specialty	58%	75%	49%	47%	36%	55%	0.002
Analyzing, organizing, and interpreting statistical data	50%	89%	35%	40%	24%	57%	<0.001
Conducting cost/benefit analyses of proposed changes	46%	30%	23%	47%	8%	39%	<0.001
Conducting financial analyses and preparing a budget	41%	18%	19%	39%	12%	30%	<0.001
Recruiting, managing, and maintaining staff	18%	15%	19%	37%	20%	28%	0.002

*Public relations (n=6) and Advertising (n=10) are excluded from the analysis due to small sample sizes.

Source: MBA Alumni Perspectives Survey, September 2004

For all skills and abilities except interpersonal skills, chi-square analysis shows significant differences in usage by specific job function. For the financial analysis skills used least by the sample overall, there are wide differences. As regards conducting cost/benefit analyses of proposed changes (38% usage overall), specific usage ranges from a low of 8% in communications to highs of 46% in product/project management and 47% in sales management. As regards conducting financial analyses and preparing a budget, differences are similar, although not as great.

We point specifically to low usage of these financial skills and abilities because of the findings of Baker and Holt (2004) in which “marketers are perceived to be

‘unaccountable’ by the rest of the organization; they are seen as unable to demonstrate a return on investment in the activities they have control over” (p. 560). Certainly part of this lack of accountability could be attributed to low usage of the skills necessary to demonstrate such a return; although part is also likely due to the nature of marketing activities, for instance the difficulty and expense of quantitatively determining the effects of advertising.

However, one thing is certain. Usage is not a function of the region of the world from which respondents hail. Analysis of usage differences among respondents from Asia, the United States, Canada, Latin America, and Europe shows no significant differences in usage for any of the fifteen skills and abilities.

Table 4. Skills and Abilities Used by Marketing Professionals by Citizenship

Skills and Abilities*	Asia N= 78	United States N= 403	Canada N= 50	Latin America N= 39	Europe N= 62
Interpersonal skills	87%	93%	88%	92%	82%
Oral communication skills	85%	87%	80%	85%	82%
Written communication skills	78%	83%	82%	79%	81%
Ability to integrate information from a wide variety of sources	78%	82%	78%	82%	79%
Analytical thinking abilities	72%	79%	72%	74%	82%
Creative problem solving skills	69%	75%	78%	79%	69%
Strategic thinking abilities	65%	72%	70%	79%	61%
Leadership skills	55%	63%	60%	74%	58%
Managing change	56%	61%	56%	64%	58%
Networking skills	71%	56%	40%	69%	61%
Technical skills for your specialty	55%	53%	64%	54%	65%
Analyzing, organizing, and interpreting statistical data	54%	53%	46%	44%	48%
Conducting cost/benefit analyses of proposed changes	46%	38%	30%	46%	34%
Conducting financial analyses and preparing a budget	31%	32%	28%	31%	37%
Recruiting, managing, and maintaining staff	31%	21%	22%	26%	23%

*Chi-square analysis shows no significant differences related to citizenship.
Source: MBA Alumni Perspectives Survey, September 2004

Factor analysis of the 15 items (Appendix 2) produces four underlying factors and demonstrates a clear distinction between activities related to strategy formulation and activities required to financially defend a strategy once formulated:

- Data analysis and strategy: analytical and strategic thinking abilities; analyzing, organizing and interpreting statistical data; creative problem-solving skills; and ability to integrate information from a wide variety of sources;
- Financial analysis: conducting cost/benefit analyses of proposed changes; conducting financial analyses; and preparing a budget;
- Communication: oral and written communication skills; and interpersonal skills;
- Networking: networking skills.

The factor analysis also offers additional insight into the meaning of questionnaire items, which, if considered separately, may appear ambiguous.. For example, the distinction between interpersonal skills and networking can be seen from the factors on which they load heavily: interpersonal skills are factored with other communication skills, while networking skills is a factor unto itself. Whereas interpersonal skills are related primarily to communication, it can be inferred that networking skills relate more to the development and maintenance of relationships.

How does an MBA education affect the level of proficiency of graduates who expect to work in marketing positions?

To answer this question, we rely on a survey of graduates at the time of graduation. The 2005 Global MBA Graduate Survey measured the self-reported proficiency

levels of respondents in a core set of competencies for two time frames, their pre-MBA (question number 2 in the survey) and their current level of proficiency (widely separated, question number 9 in the survey). The text for each of these questions is as follows.

- “How would you rate your level of proficiency in the following core competencies before entering your MBA program—on a continuum from basic, intermediate, advanced, to expert level?”

- “Now that you are almost finished with your MBA (or equivalent) program, how would you rate your current level of proficiency in the following core competencies—on a continuum from basic, intermediate, advanced, to expert level?”

An 8-point scale was used to provide maximum differentiation between the two time periods. The scale, on the Web-based survey, had the following appearance.

Figure I. 8-Point Scale between Time Periods

	Basic		Intermediate		Advanced		Expert	
Item Text	○	○	○	○	○	○	○	○

Means for each of the core competencies are calculated in order to compare pre-MBA levels of competency with self-assessed competency at the time of graduation for respondents who will work in marketing/sales positions.

Results are shown in Table 5. Based on paired-sample t-tests, all changes are statistically significant.

Table 5. Core Competencies of MBA Graduates Entering the Marketing Profession			
Core Competency	Level of Proficiency (N= 1,033)		
	Pre-MBA	Current	Change
Ability to think strategically	4.26	6.18	45%
Ability to make decisions with imperfect information	4.27	5.93	39%
Implementation/project management skills	4.52	5.99	32%
Ability to integrate information from a wide variety of sources	4.73	6.20	31%
Quantitative skills	4.43	5.81	31%
Leadership Skills	4.70	6.11	30%
Initiative/risk-taking ability	4.49	5.84	30%
Ability to think analytically	4.85	6.20	28%
Oral communication skills	4.87	6.17	27%
Creative problem-solving skills	4.83	6.09	26%
Cross-cultural sensitivity and awareness	5.00	6.28	25%
Ability to adapt/change to new situations	5.15	6.27	22%
Ethical awareness	5.13	6.15	20%
Written communication skills	5.24	6.21	19%
Interpersonal skills	5.35	6.28	17%
SCALE: 1&2 = Basic Level; 3&4 = Intermediate Level; 5&6 = Advanced Level; 7&8 = Expert Level			
Source: Global MBA® Graduate Survey 2005			

The graduates' ability to think strategically yielded the greatest change, followed closely by the ability to make decisions with imperfect information. As regards the ability to think strategically, the findings show that improvement is greatest in the ability that recruiters recruiting for marketing positions find most attractive (Table 1). Three other competencies which appear in the top half of competencies most improved in graduates appear in the bottom half in terms of those recruiters find most attractive: ability to make decisions with imperfect information, implementation/project management skills, and ability to integrate information from a wide variety of sources. Quantitative skills and leadership skills are in the top half in self-assessed improvement as well as the top half in attractiveness to recruiters.

We next explore whether those who are entering marketing positions differ from those entering non-marketing positions in their pre-MBA and post-MBA competencies. ANOVA is computed for each of the core competencies in each of the two time frames. Table 6 reports those core competencies for which there are

significant differences in at least one of the time frames. Pre-MBA self-assessments are slightly (yet significantly) lower for those entering marketing positions for four competencies: ability to think strategically, ability to make decisions with imperfect information, quantitative skills, and ability to think analytically. And they are higher for three competencies: oral communication skills, written communication skills, and interpersonal skills.

Post-MBA self-assessments are also lower for those entering marketing positions for three of the four competencies showing lower pre-MBA competency—all but the ability to think strategically, for which those entering marketing positions do not differ significantly from those entering non-marketing positions. Post-MBA self-assessments for each of the three competencies showing higher marketing competency pre-MBA also show higher competency post-MBA. These three—interpersonal skills, oral communication skills, and written communication skills—are the same as those for which alumni in marketing positions report highest usage on the job (Table 2).

Table 6. Core Competency Differences: Marketers and Non-marketers

Core Competencies with Significant Differences	Pre-MBA			Post-MBA		
	Marketer (n = 1,033)	Non-Marketer (n = 3,684)	ANOVA Significance	Marketer (n = 1,033)	Non-Marketer (n = 3,684)	ANOVA Significance
Ability to think strategically	4.26	4.38	0.017	No difference	No difference	No difference
Ability to make decisions with imperfect information	4.27	4.47	<0.001	5.93	6.04	0.005
Quantitative skills	4.43	4.94	<0.001	5.81	6.14	<0.001
Ability to think analytically	4.85	5.20	<0.001	6.20	6.36	<0.001
Oral communication skills	4.87	4.66	<0.001	6.17	5.97	<0.001
Written communication skills	5.24	4.99	<0.001	6.21	6.09	0.002
Interpersonal skills	5.35	5.05	<0.001	6.28	6.11	<0.001

Source: Global MBA® Graduate Survey 2005

Of the 1,033 respondents expecting to work in marketing positions after completing their MBA degrees, 865 were searching for a job at the time of the 2005 Global MBA® Graduate Survey. Forty-five percent had either received or accepted an offer at the time of the survey. We can therefore examine whether (and how) their self-

assessments of post-MBA competencies are related to their progress in the job-search process. This is done in Table 7, in which the results of ANOVA tests are reported for comparisons between those who have and have not received or accepted an offer.

Table 7. Post-MBA Core Competencies and Stage in Job Search			
Core Competencies	No offer N= 478	Offer/ accepted N= 387	ANOVA Significance
Ability to think strategically	6.13	6.31	0.014
Ability to make decisions with imperfect information	5.88	6.03	0.045
Implementation/project management skills	5.96	6.07	0.172
Ability to integrate information from a wide variety of sources	6.19	6.27	0.311
Quantitative skills	5.67	5.93	0.002
Leadership Skills	6.03	6.22	0.012
Initiative/risk-taking ability	5.79	5.92	0.093
Ability to think analytically	6.12	6.32	0.006
Oral communication skills	6.13	6.32	0.013
Creative problem-solving skills	6.01	6.21	0.01
Ability to adapt/change to new situations	6.28	6.35	0.328
Ethical awareness	6.12	6.26	0.11
Written communication skills	6.22	6.26	0.59
Interpersonal skills	6.24	6.42	0.018
Cross-cultural sensitivity and awareness	6.34	6.35	0.922

Source: Global MBA® Graduate Survey 2005 (respondents seeking marketing positions)

For eight of the fifteen competencies assessed, those who have received or accepted an offer report higher levels of post-MBA competency in the following skills:

- Ability to think strategically
- Ability to make decisions with imperfect information
- Quantitative skills
- Leadership skills
- Ability to think analytically
- Oral communication skills
- Creative problem-solving skills
- Interpersonal skills

Seven of these eight competencies—all but the ability to make decisions with imperfect information—appear in the top half of the skills and abilities recruiters recruiting for marketing positions find attractive in graduating MBAs (Table 1). This suggests that the preferences of recruiters are translated into action. Alternatively, respondents who attain a job may have a greater sense of achievement over those who did not, thus contributing to higher self-reported competencies. To complicate matters further, a high level of belief in one’s efficacy, whether accurate or not, often translates to the setting of higher goals and increased effort to meet those goals (Bandura, 1994). This “chicken or egg” phenomenon is present here. Further research will be necessary to fully understand whether higher self-efficacy leads to job attainment or vice versa.

The Future

What skills and abilities do those who concentrated in marketing in their MBA programs need in the future?

We rely on MBA Alumni Perspectives Surveys conducted from 2001 through 2004 to answer this question. Alumni participating in these surveys were presented a randomized

list of skills and abilities and asked: “In which of the following areas do you wish you had received more education/training during your MBA program?” Multiple responses were allowed. For analysis, we then selected those respondents with one year of post-MBA work experience who concentrated in marketing during their MBA programs from each of the four surveys. This produced a combined sample of respondents from the graduating classes of 2000 through 2003 who were expressing their educational needs with the same amount of post-MBA work experience. While the MBA is regarded as a general management degree, most students consider themselves as concentrating in one or two areas; and most schools (formally or informally) structure their programs to make this possible. In fact, when asked to indicate the one or two areas in which they concentrated during their MBA programs, 87% do so, with only 13% selecting the option “did not specialize.”

Table 8 shows the educational needs of these marketing alumni in descending order. Most items were included in all four Global MBA® Graduate Surveys; sample sizes are lower for those items not included in each survey.

Table 8. Retrospective Educational Needs of Graduates Who Concentrated in Marketing		
Educational Need*	Marketing	
	N	Percent
Managing your career	704	37%
Developing a strategic plan	704	33%
Conducting financial analyses and preparing a budget	704	33%
Analyzing, organizing, and interpreting statistical data	704	28%
Conducting cost/benefit analyses of proposed changes	704	27%
Networking skills	557	26%
Designing and conducting market research	704	23%
Leadership skills	704	22%
Developing Web-based marketing	535	22%
Recruiting, managing, and maintaining staff	704	21%
Developing creative problem-solving skills	704	20%
Computer and related technology skills	704	20%
Analytical thinking	388	20%
Strategic thinking	557	20%
Stress management	704	19%
Managing change	704	19%

Table 8. Retrospective Educational Needs of Graduates Who Concentrated in Marketing		
Educational Need*	Marketing	
	N	Percent
Oral communication skills	704	17%
Integration of information from a wide variety of sources	557	15%
Interpersonal skills	704	14%
Technical skills for your specialty	557	13%
Written communication skills	557	8%
None of the above	704	5%
*One year of post-MBA work experience.		
Source: MBA Alumni Perspective Surveys 2001, 2002, 2003 and 2004		

The table shows that skill in managing your career is the leading retrospective educational need of marketing alumni, selected by 37%. Career management is followed closely by skills required to develop a strategic plan and to conduct financial analysis and prepare a budget, selected by 33% each as areas of retrospective educational need. Similar shares of marketing alumni selected analyzing, organizing, and interpreting statistical data (28%); conducting cost/benefit analyses of proposed changes (27%); and networking skills (26%) as areas of retrospective educational need. The area selected least often (by 8%) is written communication skills. Table 8 also shows that almost all marketing alumni had interest in additional training or education in at least one of the twenty-one areas; i.e., only 5% said “none of the above” when presented with the list. On the other hand, substantial percentages of alumni did not desire more education or training in many areas—from a low of 63% (managing your career) to a high of 92% (written communication skills).

Factor analysis (Appendix 3) shows that the 21 educational needs reduce to six underlying dimensions, named here, along with the needs that define them:

- Information analysis and strategic planning: developing a strategic plan; strategic thinking; developing creative problem-solving skills; integration of information from a wide variety of sources; and analytical thinking;
- Communication skills: oral and written communication skills; interpersonal skills; and leadership skills;
- Statistical and financial analysis: conducting financial analyses and preparing a budget; analyzing, organizing, and interpreting statistical data; and conducting cost/benefit analyses of potential changes;
- Organization management: recruiting, managing, and maintaining staff; stress management; and managing change;
- Career management: managing your career; and networking skills;
- Marketing-specific skills: technical skills for your specialty; developing Web-based marketing; and designing and conducting market research.

Two of the factors here—information analysis and strategic planning (factor 1) and statistical and financial analysis (factor 3)—closely match factors uncovered in the earlier analysis of skills and abilities recruiters find attractive—strategic/analytical thinking (factor 5) and data collection and analysis (factor 4). We will say more about these expressed educational needs after introducing additional information that can be used to interpret them.

What are the retrospective educational needs of those who work in marketing?

We again rely on the results of the MBA Alumni Perspectives survey program to answer this question.

Alumni from the graduating classes from 2000 through 2004 were asked the same question in the September 2004 Perspectives survey: “In which of the following areas do you wish you had received more education/training during your MBA program?” Here, though, we combine

responses across graduating years (removing the constraint of only one year of post-MBA work experience) and analyze the responses of those who work in marketing positions, regardless of their MBA concentration. Results are shown in Table 9.

Table 9. Retrospective Educational Needs of Alumni Who Work in Marketing	
Educational Need	Percent N= 658
Managing your career	37%
Developing a strategic plan	31%
Conducting financial analyses and preparing a budget	31%
Networking skills	28%
Designing and conducting market research	28%
Recruiting, managing, and maintaining staff	28%
Leadership skills	27%
Conducting cost/benefit analyses of proposed changes	26%
Strategic thinking	25%
Managing change	24%
Analyzing, organizing, and interpreting statistical data	23%
Stress management	21%
Developing creative problem-solving skills	20%
Oral communication skills	19%
Analytical thinking	16%
Integrating information from a wide variety of sources	15%
Interpersonal skills	15%
Technical skills for your specialty	13%
Computer and related technological skills	12%
Written communication skills	10%
None of the above	5%
Source: MBA Alumni Perspectives Survey September 2004	

The six items for which these marketing-employed respondents indicate the greatest need reflect four of the six factors discovered in the preceding factor analysis. Career management tops the list. Information analysis and strategic planning, statistical and financial analysis—represented by conducting financial analysis and preparing a budget—follow. Marketing-specific skills represented by designing and conducting market research round out the top six areas in which additional education is needed by marketing professionals.

A comparison of Tables 8 and 9 reveals a high degree of similarity in retrospective educational needs between alumni who concentrated in marketing (with one year of

post-MBA work experience) and alumni who work in marketing (regardless of their post-MBA work experience). Of the 658 marketing-employed respondents on which Table 9 is based, 26% participated in the surveys of those who concentrated in marketing on which Table 8 is based. It appears, then, that retrospective educational needs are not a function of the amount of post-MBA work experience alumni have.

To explore whether citizenship affects the retrospective educational needs of these respondents, chi-square was calculated for each skill across the five world regions, with residuals used to identify important differences. Results are shown in Table 10.

Table 10. Retrospective Educational Needs of Alumni Who Work in Marketing by Citizenship

Educational Need	Asia (N= 78)		U.S. (N= 403)		Canada (N= 50)		Latin America (N= 39)		Europe (N= 62)	
	Means	Rank	Means	Rank	Means	Rank	Means	Rank	Means	Rank
Managing your career	46%	4	36%	1	44%	1	31%	1	37%	1
Developing a strategic plan	56%	1	27%	6	22%	8	28%	4	32%	3
Conducting financial analyses and preparing a budget	38%	10	32%	2	32%	3	13%	12	23%	11
Networking skills	42%	7	25%	7	30%	5	28%	3	26%	7
Designing and conducting market research	41%	8	28%	5	20%	9	26%	5	19%	13
Recruiting, managing, and maintaining staff	24%	17	28%	4	34%	2	28%	2	27%	5
Leadership skills	49%	2	21%	11	30%	6	23%	6	37%	2
Conducting cost/benefit analyses of proposed changes	32%	14	29%	3	14%	13	18%	9	11%	18
Strategic thinking	46%	5	21%	9	16%	11	21%	8	31%	4
Managing change	31%	15	21%	10	32%	4	21%	7	23%	10
Analyzing, organizing, and interpreting statistical data	36%	11	24%	8	18%	10	10%	17	18%	15
Stress management	27%	16	20%	12	24%	7	13%	13	24%	9
Developing creative problem-solving skills	46%	6	15%	13	16%	12	13%	14	21%	12
Oral communication skills	49%	3	14%	14	10%	16	13%	15	26%	8

Table 10. Retrospective Educational Needs of Alumni Who Work in Marketing by Citizenship

Educational Need	Asia (N= 78)		U.S. (N= 403)		Canada (N= 50)		Latin America (N= 39)		Europe (N= 62)	
	Means	Rank	Means	Rank	Means	Rank	Means	Rank	Means	Rank
Analytical thinking	41%	9	13%	16	10%	17	8%	19	16%	16
Integrating information from a wide variety of sources	36%	12	13%	15	6%	20	13%	16	10%	19
Interpersonal skills	35%	13	10%	19	12%	15	10%	18	27%	6
Technical skills for your specialty	23%	18	11%	18	12%	14	18%	10	13%	17
Computer and related technological skills	18%	20	12%	17	10%	18	8%	20	8%	20
Written communication skills	21%	19	5%	21	10%	19	15%	11	19%	14
None of the above	1%	21	7%	20	2%	21	3%	21	3%	21

Source: MBA Alumni Perspectives Survey September 2004

For 14 of the 20 skills and abilities, citizenship significantly affects self-reported needs for more education/training. Items bolded in the top part of the table are contributing the most to chi-square differences. The effects of these differences can best be seen in the bottom of the table, in which needs are ranked within each citizenship category. For example, the need for more training in conducting financial analyses and preparing a budget is perceived as relatively high by U.S. citizens and Canadians, in contrast with citizens of other world regions. Recruiting, managing, and maintaining staff ranks second for Canadians and Latin Americans, but seventeenth for Asians. Leadership skills rank second for Asians and Europeans, but lower for the other groups. Conducting cost/benefit analyses of proposed changes, which ranks third for U.S. citizens, is eighteenth for Europeans. Europeans rank strategic-thinking as fourth in need of additional education/training, contrasted with the ninth-place position accorded by U.S. citizens and eleventh-place for Canadians. Other important citizenship

differences include high self-reported needs among Asians for more education/training in their oral communication skills; and the relatively high needs expressed by Europeans for more education/training in interpersonal skills.

What skills and abilities do companies say need strengthening among MBA graduates selected for marketing positions?

In the first section of the paper, we reported results from the Corporate Recruiters Survey 2004–2005 on the skills and abilities recruiters recruiting exclusively for marketing positions find attractive in MBA graduates. Here we report how those same recruiters responded to the question: “What would you like to see strengthened in MBA candidates?” More than anything else, these recruiters would like to see the ability to make decisions with imperfect information strengthened (36%, as shown in Table 11).

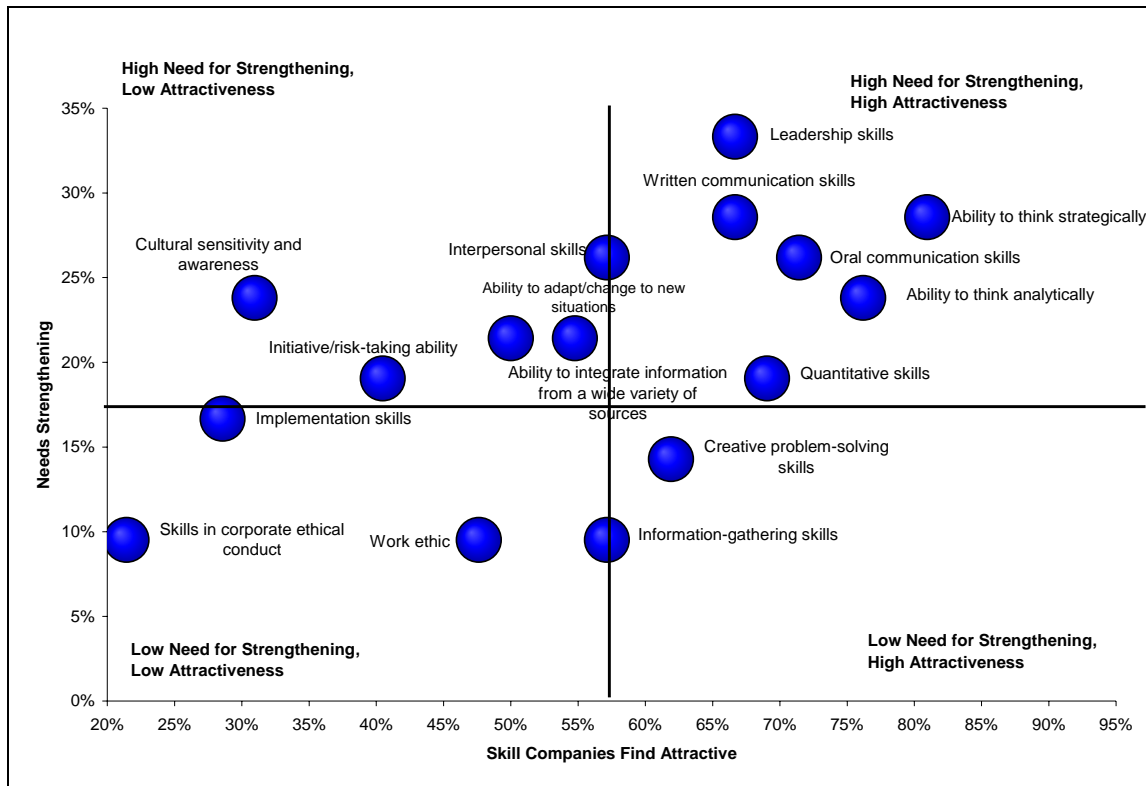
Table II. Skills that Need Strengthening (Recruiter Perceptions)	
Skills Needing Strengthening	Marketing only N= 42
Ability to make decisions with imperfect information	36%
Leadership skills	33%
Ability to think strategically	29%
Written communication skills	29%
Interpersonal skills	26%
Oral communication skills	26%
Ability to think analytically	24%
Cultural sensitivity and awareness	24%
Ability to adapt/change to new situations	21%
Ability to integrate information from a wide variety of sources	21%
Quantitative skills	19%
Initiative/risk-taking ability	19%
Implementation skills	17%
Creative problem-solving skills	14%
Information-gathering skills	10%
Skills in corporate ethical conduct	10%
Work ethic	10%
Technological skills	7%
Ability to delegate	7%
Source: Corporate Recruiter Survey 2004-2005	

One-fourth or more of recruiters desire candidate strengthening in leadership skills, ability to think strategically, written and oral communication skills, and interpersonal skills. Alumni working in marketing and recruiters seeking to hire for marketing positions agree that leadership skills and the ability to think strategically are areas in need of strengthening. For a number of other skills and abilities, however, recruiters indicate a greater need for strengthening than do marketing-employed

alumni. These include oral and written communication skills, interpersonal skills, and the ability to think analytically.

Because recruiters indicated both what skills and abilities they find attractive in MBAs and those that need strengthening, it is possible to compare skills and abilities along these two dimensions. The results are illustrated in Figure 2.

Figure 2. MBA Training Gap Analysis: Marketing Positions



This figure shows that, while a number of skills and abilities are perceived as attractive, they are also perceived as highly in need of strengthening (although by lower shares of recruiters). These include leadership skills, the ability to think strategically, oral and written communication skills, the ability to think analytically, and quantitative skills. The skills and abilities that are relatively low in attractiveness and perceived as high in the need for strengthening include: cultural sensitivity and awareness, ability to adapt/change to new situations, ability to integrate information from a wide variety of sources, and initiative/risk-taking ability. Skills in corporate ethical conduct are perceived as neither attractive nor in need for strengthening. Work ethic is much lower in attractiveness than items at the top of the attractiveness list and is perceived as in low need for strengthening. Creative problem-solving skills are

perceived as relatively high in attractiveness and relatively low in their need for strengthening.

In what areas have alumni received more education/training since completing their MBAs—and what are their plans for the future?

Alumni responding to the April 2005 MBA Alumni Perspectives Survey provide the answer to this question—graduates from the MBA classes of 2000 through 2004. They were asked: “In which of the following areas have you received additional education since completing your MBA (or equivalent) degree—or do you plan to receive additional education in the future?” They responded to a randomized list of seventeen items, plus a fixed additional item—“none of the above.” Table I2 shows how those working in marketing/sales differ from those working in other job functions (with chi-square analysis used to assess significance).

Table 12. Additional Education Received Since Completing the MBA			
Education Received	Marketing/Sales N= 490	Other job function N= 1,594	X ² significance
Leadership	26%	25%	0.584
Personnel management	11%	11%	0.997
Computer/software	26%	26%	0.947
Managing high performance teams	7%	8%	0.250
Group/team dynamics	24%	18%	0.005
Holding employees/peers accountable	7%	8%	0.233
Empowering employees	12%	10%	0.119
Managing poor performance	8%	9%	0.348
Performance coaching	16%	13%	0.164
Communicating with diplomacy & tact	17%	12%	0.006
Giving/receiving constructive feedback	19%	18%	0.396
Presentation skills	27%	21%	0.012
General project management	18%	21%	0.199
Cross functional communication	15%	10%	0.001
Meeting management/organization	14%	11%	0.166
Managing expectations/managing UP	11%	9%	0.383
Managing organizational transitions/shifts	11%	9%	0.205
None of the above	39%	42%	0.273
Source: MBA Alumni Perspectives Survey April 2005			

As the table shows, respondents working in marketing/sales have received significantly more education in four areas since completing their MBAs than those working in other job functions: group/team dynamics, communicating with diplomacy and tact, presentation skills, and cross-functional communication. Forty-one percent of alumni overall had not received additional education in any of the areas listed; and those working in marketing do not differ significantly from others in this regard.

With regard to plans for the future, those working in marketing/sales plan significantly more education in five areas than do those working in other job functions. These areas are personnel management, managing high performance teams, managing poor performance, performance coaching, and managing expectations/managing UP (Table 13). Forty-five percent of alumni have no plans for additional education in the areas listed; and, as with additional education already received, those working in marketing do not differ significantly from others in this regard.

Table 13. Additional Education Planned by Alumni

Education Planned	Marketing/Sales N= 490	Other job function N= 1,594	X ² significance
Leadership	24%	22%	0.232
Personnel management	16%	11%	0.003
Computer/software	12%	14%	0.222
Managing high performance teams	16%	12%	0.009
Group/team dynamics	10%	8%	0.341
Holding employees/peers accountable	8%	7%	0.295
Empowering employees	11%	9%	0.189
Managing poor performance	10%	7%	0.029
Performance coaching	16%	12%	0.009
Communicating with diplomacy & tact	9%	8%	0.702
Giving/receiving constructive feedback	10%	8%	0.341
Presentation skills	12%	12%	0.668
General project management	12%	16%	0.069
Cross functional communication	7%	6%	0.266
Meeting management/organization	6%	5%	0.541
Managing expectations/managing UP	12%	8%	0.004
Managing organizational transitions/shifts	10%	8%	0.220
None of the above	42%	46%	0.123

Source: MBA Alumni Perspectives Survey April 2005

Discussion

While there is widespread agreement concerning an academic/practitioner divide in marketing education, and while some authors raise questions about a relevance gap in MBA education in general, we do not believe the findings presented here describe a dire situation in marketing education. We do think that constructing the future of marketing education requires attention to empirical research on skills and abilities learned in MBA programs, used and desired by practitioners who graduated from these programs, and valued by corporate recruiters. To that end we have presented our findings on these topics and now turn to the key issues and opportunities that these findings raise.

The immediate curriculum implications of our findings extend in several directions. First, the expressed retrospective educational needs of alumni, as well as their post-MBA educational efforts and plans, offer valuable

information on the types of courses that may be of greatest interest to alumni in lifelong learning programs, as well as information that may be used to improve existing courses in MBA programs. Second, as discussed earlier, students from different world regions differ widely in their retrospective educational needs. These differences may be useful in designing courses and programs that are offered by universities in different regions or are targeted to different citizenship groups. Third, although companies recruiting for marketing positions find certain skills and abilities attractive (strategic/analytical thinking abilities, quantitative skills, written and oral communication skills, and leadership skills), they also think these skills should be strengthened to some extent. Fourth, whether met by MBA career services officers or as a part of course work, during the MBA program or in a lifelong learning program, this research has identified a clear need among marketing graduates for more education on career management.

The implications of this research, however, should be considered beyond the short-term and more generally in the context of long-term changes in MBA education for marketers. The research shows that companies find the strategic and analytical thinking abilities of graduates to be the most attractive across a wide range of skills and abilities; and graduates planning to work in marketing indicate their greatest improvement in the ability to think strategically. This suggests a situation markedly different from that existing in 1959 when the Gordon-Howell report lambasted business schools for being too vocational and “narrow, rather than broadening” (p. 10); for educating primarily for the first job rather than the whole career; and for ignoring the pursuit of knowledge that exemplified most other graduate degree programs in universities at the time. In contrast, now—nearly 50 years later—Bennis and O’Toole (2005) write that “nearly all the nation’s leading business schools...offered a curriculum of academic distinction” (p. 2). We believe that the focus on the pursuit of knowledge with rigorous (scientifically constructed) research is precisely why this result has been achieved and also why there is an academic/practitioner divide. And it is also why graduates improve so much in their abilities to think strategically and analytically and why employers value these abilities so much. As Zimmerman (2001) noted, “[after the Gordon-Howell report] instead of teaching students a collection of facts about business, schools began to teach students how to think about business problems” and “changed from training future managers (vocationalism) to educating future managers” (p. 7). The pendulum has clearly swung, but has it swung too far?

O’Brien and Deans (1995) report that “employers would seem to favor a more practical-based degree that furnishes students with the everyday skills that management posts demand” (p. 51), supporting a positive response to our question, as do Bennis & O’Toole (2005) in asserting that “MBA programs face intense criticism for failing to impart useful skills (*italics ours*)” (p. 1). In the research reported here, the greatest retrospective educational needs of MBA alumni working in marketing positions relate to developing a strategic plan and conducting financial and cost/benefit analyses—skills that are clearly practical, yet useless if not practiced without adequate theoretical underpinnings. Powell (2001) argues that “the art and skill of applying theory and knowledge to professional

procedures and practices deserves more emphasis in our education programs and in our research efforts” (p. 437) and goes on to say, “to nurture and inform creative useful habits of mind we need to meld the thoughtful use of information and knowledge with experiential learning” (p. 438). We agree. But while some may assess that the pendulum has swung too far, we are not suggesting a return to vocationalism; rather, we prefer a trajectory that better integrates practical skills with the strategic and analytical capabilities of students.

Our preference for such integration is not rooted solely in the expressed desires of alumni and employers. The findings reported here point to more fundamental reasons. While graduating students report the greatest improvement in their strategic and analytical thinking abilities, alumni (as noted above) express retrospective educational needs that relate to developing a strategic plan and conducting financial and cost/benefit analyses. And less than one-half of alumni working in product/project management and sales management (where usage is the highest among all marketing job functions) report usage of skills required to conduct cost/benefit analyses of proposed changes and to conduct financial analyses and prepare a budget. In addition, employers find the implementation skills of graduates much less attractive than their ability to think strategically. All of this suggests a thinking-doing divide in which intellectual capabilities are highly developed, while parallel operational skills are not. So, too, do the factor analyses of views expressed by alumni and employers, in which skills related to thinking are clearly independent from skills related to doing. This thinking-doing divide alone supports the need for instructional methods that are more integrative and experiential.

The thinking-doing divide has other consequences. As discussed earlier, Baker and Holt (2004) find that “marketers are perceived to be ‘unaccountable’ by the rest of the organization; they are seen as unable to demonstrate a return on investment in the activities they have control over” (p. 560). In one article of an entire issue of the *Journal of Business Research* devoted to the interface between marketing and finance, Zinkham and Verbrugge (2000) point out that “the effectiveness of marketing activities is more often assumed than empirically verified” (p. 144). Webster et al, in their award-winning report from the Marketing Science Institute, say that “marketing

managers must develop ways to measure marketing productivity in terms meaningful to CEOs, CFOs, and investors” (p. 29) and that marketing today faces numerous challenges, “among them, ... an inability to quantify marketing’s contributions to the firm” (p. 29). They went on to assert that this lack of accountability has caused marketing to “lose its seat at the table” (p. 29)—a seat that can be regained only when marketing “contributions to firm growth are recognized by top management” (p. 29). We do not believe this is possible until the thinking-doing divide is bridged in the educational process. Increased use of case studies, simulations, and company-sponsored consulting assignments are strongly suggested and, in each case, with an emphasis on the development and defense of specific strategic plans with supporting budgets. Courses jointly taught by finance and marketing faculty in which each challenges the other would appear ideal, although egos and the structure of curricula and class-load assignments may make such courses only a dream.

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Appendix 1. Factor Analysis of Skills Companies Find Attractive

Table A-I. Factor Analysis of Skills Companies Find Attractive					
Skills and Abilities	Component				
	1	2	3	4	5
Ability to adapt/change to new situations	0.72	0.00	0.19	-0.04	0.12
Ability to integrate information from a wide variety of sources	0.62	-0.01	0.12	0.18	0.20
Ability to think analytically	0.07	0.13	0.05	0.35	0.67
Ability to think strategically	0.23	0.05	0.08	-0.10	0.76
Ability to make decisions with imperfect information	0.66	0.23	-0.03	0.14	0.11
Information-gathering skills	0.36	0.14	0.07	0.66	-0.05
Quantitative skills	-0.13	0.22	0.10	0.65	0.35
Technological skills	0.12	0.01	0.22	0.58	-0.03
Initiative/risk-taking ability	0.43	0.27	0.40	-0.01	0.11
Interpersonal skills	0.30	0.57	0.25	0.02	0.14
Oral communication skills	0.07	0.82	0.13	0.13	0.12
Written communication skills	0.02	0.80	0.06	0.21	0.08
Creative problem-solving skills	0.38	0.14	0.17	0.12	0.37
Leadership skills	0.19	0.50	0.18	-0.25	0.47
Ability to delegate	0.37	0.36	0.32	0.18	-0.08
Implementation skills	0.48	0.38	0.22	0.32	-0.01
Cultural sensitivity and awareness	0.19	0.10	0.81	0.12	0.06
Skills in corporate ethical conduct	0.05	0.18	0.78	0.19	0.13
Work ethic	0.27	0.17	0.44	0.37	0.13

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
 Rotation converged in 9 iterations; 55.5% of Variance Explained
Source: Corporate Recruiter Survey 2004-2005 (recruiters recruiting for marketing only; n=42)
 Component 1: Decision-making under Uncertainty
 Component 2: Communication Skills
 Component 3: Cultural and Ethical Awareness
 Component 4: Data Collection and Analysis
 Component 5: Strategic/Analytical Thinking Ability

Appendix 2. Factor Analysis of Skills and Abilities Used by Marketing Professionals

Table A-2. Factor Analysis of Skills and Abilities Used by Marketing Professionals				
Skills and Abilities	Component			
	1	2	3	4
Leadership skills	0.26	0.39	0.25	0.51
Technical skills for your specialty	0.47	0.18	0.17	-0.11
Analytical thinking abilities	0.77	0.11	0.14	0.04
Strategic thinking abilities	0.63	0.12	0.13	0.41
Creative problem solving skills	0.59	0.10	0.18	0.30
Ability to integrate information from a wide variety of sources	0.57	0.03	0.13	0.23
Oral communication skills	0.08	0.11	0.66	0.27
Written communication skills	0.26	0.10	0.74	-0.28
Networking skills	0.09	0.03	0.08	0.73
Interpersonal skills	0.07	-0.04	0.71	0.24
Analyzing, organizing, and interpreting statistical data	0.64	0.16	-0.21	-0.18
Recruiting, managing, and maintaining staff	-0.09	0.58	0.11	0.37
Conducting cost/benefit analyses of proposed changes	0.31	0.73	-0.01	-0.06
Conducting financial analyses and preparing a budget	0.24	0.73	-0.05	-0.05
Managing change	0.04	0.50	0.31	0.32

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
 Rotation converged in 7 iterations; 53% of variance explained
Source: MBA Alumni Perspectives Survey, September 2004
 Component 1: Data Analysis & Strategy
 Component 2: Financial Analysis
 Component 3: Communication Skills
 Component 4: Networking

Appendix 3. Factor Analysis of Retrospective Educational Needs of Graduates Who Concentrated in Marketing

Table A-3. Factor Analysis of Retrospective Educational Needs of Graduates Who Concentrated in Marketing						
Retrospective Needs*	Component					
	1	2	3	4	5	6
Analytical thinking	0.50	0.22	0.31	-0.19	-0.15	0.17
Analyzing, organizing, and interpreting statistical data	0.12	0.09	0.68	-0.06	-0.05	0.23
Computer and related technology skills	0.04	-0.08	0.16	0.51	-0.09	0.32
Conducting cost/benefit analyses of proposed changes	0.12	-0.11	0.67	0.08	0.07	0.02
Conducting financial analyses and preparing a budget	0.06	0.00	0.70	0.11	-0.03	-0.11
Designing and conducting market research	0.19	0.06	0.21	-0.16	-0.01	0.39
Developing a strategic plan	0.70	-0.06	0.09	-0.01	0.12	-0.02
Developing creative problem-solving skills	0.62	0.22	0.07	0.03	-0.07	0.05
Developing Web-based marketing	0.09	-0.32	-0.18	0.34	0.11	0.44
Integration of information from a wide variety of sources	0.57	0.04	0.09	0.17	0.07	0.17
Interpersonal skills	0.20	0.54	-0.07	0.05	0.29	-0.05
Leadership skills	0.31	0.53	-0.11	0.02	0.09	-0.25
Managing change	0.25	0.36	-0.16	0.40	0.06	-0.17
Managing your career	0.06	0.00	-0.01	0.10	0.79	0.05
Networking skills	0.01	0.24	0.02	-0.06	0.72	-0.07
Oral communication skills	0.12	0.67	0.13	0.02	0.00	0.04
Recruiting, managing, and maintaining staff	-0.05	0.00	0.15	0.66	0.05	-0.18
Strategic thinking	0.69	0.23	0.03	-0.15	0.05	0.02
Stress management	-0.14	0.40	-0.13	0.47	0.06	0.10
Technical skills for your specialty	0.03	0.02	0.00	0.03	-0.04	0.65
Written communication skills	0.08	0.57	0.00	-0.09	0.07	0.41

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.
 Rotation converged in 19 iterations; 47% of variance explained
Source: MBA Alumni Perspective Surveys 2001, 2002, 2003 and 2004
 *One year of post-MBA work experience
 Component 1: Information Analysis & Strategic Planning
 Component 2: Communication Skills
 Component 3: Statistical and Financial Analysis
 Component 4: Organization Management
 Component 5: Career Management
 Component 6: Marketing-specific Skills

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